

SPECIFICATIONS

- A. REFER TO PROJECT SPECIFICATIONS FOR DETAILED REQUIREMENTS FOR MATERIAL AND WORKMANSHIP.
- B. THE WORK OF THESE DRAWINGS ADDRESSES STRUCTURAL INFORMATION ONLY. THE STRUCTURAL DOCUMENTS INCLUDE THESE S-SERIES DRAWINGS AND GENERAL NOTES.

1.2. ELEVATIONS & DIMENSIONS

- A. ALL ELEVATIONS AND DIMENSIONS SHOWN FOR NEW CONSTRUCTION ARE BASED ON THE ARCHITECTURAL DRAWINGS. COORDINATE ALL ELEVATIONS AND DIMENSIONS BEFORE PROCEEDING WITH CONSTRUCTION.

1.3. GOVERNING BUILDING CODES

- A. THE FOLLOWING BUILDING CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITHIN, SHALL APPLY TO THE DESIGN, CONSTRUCTION, QUALITY CONTROL AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT.
 1. "FLORIDA BUILDING CODE - 8th EDITION (2023)"
 2. "INTERNATIONAL BUILDING CODE - 2021, INTERNATIONAL CODE COUNCIL
 3. "MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES", (ASCE/SEI 7-22), AMERICAN SOCIETY OF CIVIL ENGINEERS.
- B. ADDITIONAL CODES FOR MATERIALS SHALL BE FOUND IN THE APPROPRIATE SECTIONS THAT FOLLOW. SEE THOSE SECTIONS FOR THE APPLICABLE CODES.

1.4. DESIGN LOADS

- A. **RISK CATEGORY:** II
- B. **FLOOR LIVE LOADS:**
 1. LOBBIES/STAIRS/EXITS 100 PSF
 2. SERVICE/PARTS STORAGE 150 PSF
 3. OFFICE/CORRIDORS 100 PSF
- C. **ROOF LIVE LOADS:**
 1. MINIMUM LIVE LOAD: 20 PSF
- D. **ROOF SNOW LOAD DATA: (PLUS DRIFTING AND SLIDING WHERE APPLICABLE)**
 - a. $P_g = 0$ PSF
 - b. $P_f = N/A$
 - c. $C_e = N/A$
 - d. $I_s = N/A$
 - e. $C_t = N/A$
- E. **WIND DESIGN DATA:**
 1. BASIC WIND SPEED (3-SECOND GUST), $V = 138$ MPH, $V_{asd} = 105$ MPH
 2. EXPOSURE CATEGORY: C
 3. INTERNAL PRESSURE COEFFICIENT: $GCFI = +/- 0.18$
 4. DESIGN BASE SHEAR, $V = 270$ KIPS N/S (ULTIMATE)
 5. DESIGN BASE SHEAR, $V = 170$ KIPS E/W (ULTIMATE)
 6. COMPONENTS AND CLADDING:
 - a. PRESSURE VALUES LISTED BELOW ARE FOR AT = 10 FTZ:

(i) MAXIMUM PRESSURE ON VERTICAL FACE:	END (ZONE 5):	57.1 PSF
	INTERIOR (ZONE 4):	44.0 PSF
(ii) MAXIMUM PRESSURE ON ROOF:	CORNER (ZONE 3):	122.0 PSF
	END (ZONE 2):	93.2 PSF
	INTERIOR (ZONE 1):	73.4 PSF
 - b. REFER TO ASCE 7-16 FIG 30.3-1 & 30.3-2A FOR ZONE LAYOUTS AND DESCRIPTIONS,
- F. **EARTHQUAKE DESIGN DATA:**
 1. SEISMIC IMPORTANCE FACTOR, $I_e = 1.0$
 2. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:
 - a. $S(S) = 0.06$
 - b. $S(1) = 0.033$
 3. SITE CLASS: D
 4. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS:
 - a. $S(S) = 0.064$
 - b. $S(1) = 0.052$
 5. SEISMIC DESIGN CATEGORY = A
 6. BASIC SEISMIC FORCE-RESISTING SYSTEM: N/A
 7. DESIGN BASE SHEAR, $V = N/A$
 8. SEISMIC RESPONSE COEFFICIENT, $C(S) = N/A$
 9. RESPONSE MODIFICATION COEFFICIENT, $R = N/A$
 10. ANALYSIS PROCEDURE: ANALYSIS NOT REQUIRED
- G. **SPECIAL LOADS:**
 1. WORK FLOOR (MANUFACTURING, STORAGE WAREHOUSES, REPAIR GARAGES):
 - a. CONCENTRATED LIVE LOAD ON BOTTOM CHORD OF ROOF MEMBERS: 2,000#
 2. EQUIPMENT AS SHOWN ON LATERAL PLANS. IF EQUIPMENT INDICATED ON OTHER PLANS DIFFERS, NOTIFY TEC.
- H. **ROOF RAIN LOAD DATA:**
 1. RAIN INTENSITY, $i(15) = 7.14$ in/hr
 2. RAIN INTENSITY, $i(60) = 3.90$ in/hr

1.5. GENERAL

- A. INSPECTIONS AND CLOSEOUT: OWNER OR CONTRACTOR ARRANGED 3RD PARTY INSPECTIONS/ SPECIAL INSPECTIONS SHALL CONFORM TO LOCAL JURISDICTION REQUIREMENTS AND INSPECTION REQUIREMENTS SHOWN ON THESE DOCUMENTS. FINAL CERTIFICATION FROM THE ENGINEER OF RECORD, IF REQUIRED BY THE AUTHORITY HAVING JURISDICTION OR OWNER, WILL BE PROVIDED ONCE TEC RECEIVES A THIRD PARTY INSPECTION REPORT CONFIRMING THE STRUCTURE WAS INSTALLED PER THE CONTRACT DOCUMENTS. TEC DOES NOT PROVIDE THIRD PARTY INSPECTIONS, AND OUR SITE OBSERVATIONS ARE FOR GENERAL CONFORMANCE, NOT INSPECTION.
- B. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES AND DETAILS THE MOST RIGID SHALL GOVERN.
- C. ALL DETAILS, SECTIONS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE NOTED.
- D. WORK NOT INCLUDED ON THE DRAWINGS BUT IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING LOCATIONS ELSEWHERE ON THE DRAWINGS SHALL BE REPEATED.
- E. DO NOT SCALE DRAWINGS.
- F. NO PART OF THE BUILDING SHALL BE USED AS A STAGING AREAS RESULTING IN A LOAD (UNDER THE LIMITED LOADED AREA) THAT EXCEEDS THE DESIGN LOADS.
- G. THESE DRAWINGS REPRESENT THE COMPLETED PROJECT WHICH HAS BEEN DESIGNED FOR THE WEIGHTS OF MATERIALS, FOR THE SUPERIMPOSED LOADS INDICATED IN THE DESIGN LOAD CRITERIA ABOVE, AND FOR LOADS INDICATED ON THE DRAWINGS. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSE WORK, STAGING, BRACING, SHEETING AND SHORING, ETC.
- H. DEVELOPING AND IMPLEMENTING JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- I. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING AND NEW UTILITIES AND SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE DURING CONSTRUCTION.
- J. NO CHANGE IN SIZE, DIMENSION, OR POSITION OF STRUCTURAL ELEMENTS SHALL BE MADE. NOR SHALL ANY OPENINGS OR SLEEVES BE PERMITTED THROUGH ANY STRUCTURAL ELEMENT, WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD, UNLESS DETAILED AND SPECIFICALLY NOTED AND APPROVED ON THE SHOP DRAWINGS. PROVIDE SEPARATE SHOP DRAWINGS INDICATED ALL PENETRATIONS THROUGH STRUCTURAL ELEMENTS FOR APPROVAL. PRIOR TO THE SUBMISSION OF THE SHOP DRAWINGS FOR THE AFFECTED STRUCTURAL ELEMENTS.
- K. ALL COSTS OF INVESTIGATION AND REDESIGN, DUE TO THE CONTRACTOR MIS-LOCATION OF STRUCTURAL ELEMENTS OR OTHER LACK OF CONFORMANCE WITH THE PROJECT DOCUMENTS, SHALL BE AT THE CONTRACTORS EXPENSE.
- L. CONTRACTOR SHALL REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS, SLEEVES, CHASES, CONCRETE HOUSEKEEPING PADS, INSERTS, DEPRESSIONS, REVEALS, DRIPS, FINISHES, DOORS AND OTHER SUCH PROJECT REQUIREMENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS. ANY SUCH ITEMS SHOWN ON STRUCTURAL DRAWINGS ARE INDICATED FOR INFORMATION ONLY. APPEARANCE OF SAME ON STRUCTURAL DRAWINGS IS NOT MEANT TO CONVEY ACTUAL LOCATION OR EXTENT OF WORK.
- M. SEE ARCHITECTURAL DRAWINGS FOR DETAILED INFORMATION REGARDING FINISHES, WATERPROOFING, FIREPROOFING, ETC.
- N. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF DRYWALL PARTITIONS AND PROVIDE SLIP CONNECTIONS THAT ALLOW VERTICAL MOVEMENT AT THE HEADS OF ALL SUCH PARTITIONS, UNLESS SHOWN ON THE DRAWINGS, THE CONNECTIONS SHALL BE DESIGNED TO LATEROALLY BRACE THE TOPS OF THE WALLS FOR THE CODE REQUIRED LATERAL LOAD. PROVIDE COMPRESSIBLE FIRE-SAFING AT THE TOP OF RATED WALLS AS SPECIFIED BY THE ARCHITECTURAL DRAWINGS.
- O. PROVIDE ANY ADDITIONAL COMPONENTS NEEDED TO ACCOMMODATE THE INSTALLATION OF EQUIPMENT OF ANY NATURE. COORDINATE SUCH WORK WITH THE EQUIPMENT SUPPLIER. INCORPORATE SUCH REFINEMENTS ON THE SHOP DRAWINGS, AND OBTAIN THE EQUIPMENT SUPPLIERS APPROVAL (CLEARLY DISPLAYED ON THE DRAWINGS) PRIOR TO SUBMITTING THE SHOP DRAWINGS TO THE ARCHITECT AND ENGINEER FOR APPROVAL.
- P. ALL HANGERS FOR OTHER MECHANICAL PIPING AND EQUIPMENT SHALL BE CONNECTED TO THE STEEL BEAMS ONLY. ALL PIPE GOURS SHALL BE SUPPORTED ON TRAPEZES WHICH SHALL BE SUSPENDED FROM STEEL BEAMS OR JOISTS. CONTRACTOR MAY PROVIDE SECONDARY MEMBERS SPANNING BETWEEN STRUCTURAL BEAMS AS NEEDED. UNLESS NOTED OTHERWISE, HANGERS SHALL BE LOCATED TO KEEP THE EQUIVALENT UNIFORM LOAD UNDER 1 PLF.
- Q. THE WEB AND BOTTOM FLANGE OF STEEL BEAMS SHALL NOT BE USED FOR THE LATERAL SUPPORT OF CLADDING SYSTEMS UNLESS A KICKER IS PROVIDED AT THE POINT OF BRACING. THE SLOPE OF THE KICKER SHALL NOT BE STEEPER THAN 2 HORIZ TO 1 VERT.

1. SHOP DRAWINGS

A. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS ARE REQUIRED TO BE SUBMITTED BY THE CONTRACTOR AND REVIEWED BY THE STRUCTURAL ENGINEER. IF A CONTRACTOR OR OWNER FAILS TO SUBMIT THE SHOP DRAWINGS, TARANTINO ENGINEERING CONSULTANTS (TEC) WILL NOT BE RESPONSIBLE FOR THE STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT.

B. UNAUTHORIZED REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR RE-SUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.

C. SHOP DRAWINGS FOR HANGER LAYOUT ABOVE MECHANICAL ROOMS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW.

D. SHOP DRAWINGS SUBMITTED FOR STRUCTURAL REVIEW SHALL CONSIST OF ELECTRONIC DRAWINGS. ONLY ONE MARKED UP SET OF ELECTRONIC DRAWINGS WITH THE STRUCTURAL ENGINEER'S COMMENTS WILL BE RETURNED TO THE CONTRACTOR.

E. AT THE TIME OF SHOP DRAWING SUBMISSION, THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DEVIATIONS OR OMISSIONS FROM THE CONTRACT DRAWINGS.

F. ALLOW 10 BUSINESS DAYS FOR STRUCTURAL REVIEW OF SHOP DRAWINGS. THIS TIME SHOULD BE ALLOTTED IN THE CONTRACTOR'S SCHEDULE.

G. SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL WHICH SHALL CONSTITUTE CERTIFICATION THAT THEY HAVE VERIFIED ALL FIELD MEASUREMENTS; CONSTRUCTION CRITERIA, MATERIALS AND SIMILAR DATA AND HAVE CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION AND COMPLIANCE WITH THE CONTRACT DOCUMENTS.

H. DELEGATED DESIGN: THE CONTRACTOR SHALL SUBMIT FOR REVIEW, SIGNED AND SEALED DRAWINGS AND CALCULATIONS PREPARED BY A SPECIALTY STRUCTURAL ENGINEER REQUIRED IN THE PROJECT'S JURISDICTION FOR THE FOLLOWING ASSEMBLIES. THIS REVIEW SHALL BE FOR GENERAL CONFORMANCE WITH THE PROJECT'S PARAMETERS AS INDICATED ON THE DRAWINGS, SPECIFICATIONS AND GENERAL NOTES. THE DESIGN OF THESE ASSEMBLIES IS THE RESPONSIBILITY OF THE CONTRACTOR'S ENGINEER WHO HAS SIGNED AND SEALED THESE DRAWINGS AND CALCULATIONS. THESE SUBMISSIONS SHALL BE MADE AVAILABLE IN CONJUNCTION WITH OR PRIOR TO THE SHOP DRAWING FOR THE PRIMARY BUILDING STRUCTURE THAT SUPPORT THESE ASSEMBLIES.

1. CFM AND CURTAIN WALL SYSTEMS AND RELATED CONNECTIONS:

a. DESIGNS SHALL TAKE INTO ACCOUNT ALL VERTICAL AND LATERAL LOADS REQUIRED BY APPLICABLE BUILDING CODES. BACK-UP SYSTEMS AND CURTAIN WALLS SHALL BE DESIGNED FOR A MAXIMUM LATERAL DEFLECTION OF 1/600 OF THE SPAN IN INCHES OR 3/8" WHICHEVER IS LESS FOR THE APPLICABLE DESIGN WIND LOAD. THE SUBMITTED DRAWINGS AND CALCULATIONS SHALL CLEARLY SHOW THE LOAD PATH AND THE REACTIONS AS APPLIED TO THE MAIN BUILDING STRUCTURE.

2. METAL STAIRS:

a. DESIGNS SHALL TAKE INTO ACCOUNT ALL VERTICAL AND LATERAL LOADS REQUIRED BY APPLICABLE BUILDING CODES. WHERE HEADERS OR OTHER TYPES OF STRUCTURAL MEMBERS HAVE BEEN DESIGNATED BY THE STRUCTURAL ENGINEER OF RECORD TO SUPPORT STAIRS, THE CONNECTIONS FROM THE STAIRS SHALL BE DESIGNED SO THAT NO ECCENTRIC OR TORSIONAL FORCES ARE INDUCED INTO THESE MEMBERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING EMBEDS AND HARDWARE AS REQUIRED BY THE STAIR DESIGN.

3. RAILINGS AND GUARDRAILS:

a. DESIGNS SHALL TAKE INTO ACCOUNT ALL VERTICAL AND LATERAL LOADS REQUIRED BY APPLICABLE BUILDING CODES, INCLUDING LIVE LOAD OF 50 PLF AND 200# CONCENTRATED LOAD. WHERE RAILINGS WILL BE EMBEDDED IN THE TOP OF A CONCRETE WALL, A STEEL SLEEVE MUST BE USED.

4. STEEL CONNECTIONS:

a. DESIGNS SHALL TAKE INTO ACCOUNT ALL VERTICAL AND LATERAL LOADS REQUIRED BY APPLICABLE BUILDING CODES INCLUDING ALL MOMENT AND AXIAL EFFECTS. STEEL SHOP DRAWINGS SHOWING THE CONNECTIONS SHALL BE DESIGNED, SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE JURISDICTION.

5. PRECAST PANEL SYSTEMS AND RELATED CONNECTIONS:

a. DESIGNS SHALL TAKE INTO ACCOUNT ALL VERTICAL AND LATERAL LOADS REQUIRED BY APPLICABLE BUILDING CODES. PRECAST WALLS SHALL BE DESIGNED FOR A MAXIMUM LATERAL DEFLECTION OF 1/200 OF THE SPAN IN INCHES FOR THE APPLICABLE DESIGN WIND LOAD (L/240) (PANELS WITH THIN BRCK). THE SUBMITTED DRAWINGS AND CALCULATIONS SHALL CLEARLY SHOW THE LOAD PATH AND THE REACTIONS AS APPLIED TO THE MAIN BUILDING STRUCTURE. TEMPORARY BRACING AND LIFTING FORCES/STRESSES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SPECIALTY ENGINEER.

6. PRECAST PANEL BRACING

7. SPECIAL STEEL JOISTS.

8. CONCRETE FORMWORK.

9. TEMPORARY CONDITIONS SUCH AS NEEDLING, SHORING AND BRACED EXCAVATION.

10. MEP ANCHORAGE AND BRACING.

I. CONTRACTOR SHALL FURNISH DIMENSIONED SHOP DRAWINGS LOCATING FLOOR AND ROOF EDGES FOR REVIEW BY THE ARCHITECT AND STRUCTURAL ENGINEER.

J. CONTRACTOR SHALL FURNISH DIMENSIONED SHOP DRAWINGS SHOWING LOCATIONS OF ALL SLEEVES AND OPENINGS REQUIRED BY ALL TRADES FOR REVIEW BY THE MEP, ARCHITECT AND STRUCTURAL ENGINEER.

K. CONTRACTOR SHALL FURNISH DIMENSIONED EQUIPMENT LAYOUT DRAWINGS SHOWING LOCATIONS OF ALL EQUIPMENT, AS APPROVED BY OWNER, PRIOR TO SUBMITTING RELATED STRUCTURAL SUBMITTALS AND PRIOR TO FABRICATION AND INSTALLATION.

3. STANDARD SPECIFICATIONS AND REFERENCE STANDARDS:

- A. "ACI MANUAL OF CONCRETE PRACTICE - PARTS 1 THROUGH 5", AMERICAN CONCRETE INSTITUTE, 'MANUAL OF STANDARD PRACTICE', CONCRETE REINFORCING STEEL INSTITUTE.
- B. FOLLOW THE LATEST RECOMMENDATIONS AND SPECIFICATIONS OF THE AMERICAN CONCRETE INSTITUTE:
 1. ACI 301 SPECIFICATION OF STRUCTURAL CONCRETE
 2. ACI 302 GUIDE TO CONCRETE FLOOR AND SLAB CONSTRUCTION
 3. ACI 304 GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE
 4. ACI 305 GUIDE TO HOT WEATHER CONCRETING
 5. ACI 315 GUIDE TO DETAILING REINFORCING STEEL
 6. ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 7. ACI 347 GUIDE TO FORMWORK FOR CONCRETE
 8. ACI 117 STANDARD SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS

3.2. CONCRETE MIX PROPERTIES:

- A.

ELEMENT (NORMAL WEIGHT UNO)	28-DAY STRENGTH	W/C MAX(b)	AIR CONTENT(a)	EXPOSURE CATEGORIES
1. FOOTINGS:	3,000 PSI	0.55	6%	F0, S0, WD, C1
2. FOUNDATION WALLS:	4,000 PSI	0.50	6%	F1, S0, WD, C1
3. SLAB ON GRADE (INTERIOR):	4,000 PSI	0.48	3%	F0, S0, WD, C0
4. EXTERIOR CONCRETE:	5,000 PSI	0.40	6%	F3, S0, WD, C2
5. PRECAST PANELS:	5,000 PSI	0.40	6%	F3, S0, WD, C1

 - a. AIR CONTENT OF TROWEL FINISHED FLOORS SHALL NOT EXCEED 3%.
 - b. PUMP MIXES: MAXIMUM WATER/CEMENTITIOUS MATERIAL (W/C/M) RATIO MUST BE MAINTAINED. IF ADDITIONAL WORKABILITY IS REQUIRED FOR PUMPED PLACEMENT, THE HIGH OR MID-RANGE WATER REDUCERS SHALL BE USED IN LIEU OF ADDITIONAL WATER.
 - c. MAXIMUM SLUMP WITHOUT ADMIXTURES = 4"
 - d. AIR CONTENT INDICATED AS TARGET, +/- 1.1/2%
- B. PORTLAND CEMENT: ASTM C150, TYPE I OR III. USE TYPE II IN MARINE OR SUBMERGED ENVIRONMENTS.
- C. CEMENT SUBSTITUTES: ASTM C595, TYPE IS (LIMIT TO 50% MAX OF CEMENTITIOUS CONTENT BY WEIGHT)
- D. AGGREGATES / DENSITY: MAXIMUM COARSE AGGREGATE SIZE = 3/4" TYPICAL, 1/2" MAXIMUM AT SLABS 3" OR LESS
ASTM C31 / 145 PCF - NORMAL WEIGHT
- E. AIR-ENTRAINMENT: ASTM C260 (ALL CONCRETE EXPOSED TO WEATHER AND WITHIN 4'-0" OF FINISHED GRADE).
- F. SHOP DRAWINGS AND MIX DESIGNS SHALL BE MADE BY AN APPROVED LABORATORY FOR ALL CONCRETE AND SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER FOR APPROVAL BEFORE USE. THE MIX MUST CLEARLY NOTE WHERE THE CONCRETE IS INTENDED TO BE USED.
- G. CALCIUM CHLORIDE SHALL NOT BE PERMITTED IN CONCRETE IN ANY MANNER.

3.3. BASE PLATE GROUT: 6,000 PSI 28-DAY COMPRESSIVE STRENGTH, NON-METALLIC, NON-SHRINK.

3.4. STEEL REINFORCEMENT:

1. DEFORMED REINFORCING BARS: ASTM A615 GRADE 60
2. WELDABLE DEFORMED REINF. BARS: ASTM A706 OR APPROVED EQUAL.
3. WELDED WIRE REINFORCEMENT (WWR): ASTM A497 OR A185 (FLAT SHEETS ONLY)

A.	MILD REINFORCED CONCRETE	
1.	CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3 IN.
2.	CONCRETE EXPOSED TO EARTH OR WEATHER:	
	#6 BAR OR LARGER	2 IN.
	#5 BAR OR SMALLER	1½ IN.
3.	CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND; SLABS, WALLS, AND PRECAST	
	#11 BAR OR SMALLER	¾ IN.

GENERAL REQUIREMENTS:

A. REINFORCEMENT AT OPENINGS: UNLESS DETAILED OTHERWISE, PROVIDE 2 - #6 AT EACH SIDE OF ALL OPENINGS IN WALLS AND SLABS AND EXTEND A LENGTH EQUAL TO Ld BEYOND THE OPENING OR AS DETAILED, EXCEPT VERTICAL BARS AT SIDES OF OPENINGS IN WALLS ARE TO EXTEND FROM FLOOR TO FLOOR. BARS MAY BE DETAILED WITH TOP OR BOTTOM OPENING OR SLEEVE BUT DO NOT CUT OR OMIT.

B. PROVIDE (2) #4 X 4'-0" AT SLAB MID DEPTH AT ALL RE-ENTRANCES OF FLOOR SLAB (BOTH ELEVATED AND SLAB ON GRADE).

C. MINIMUM REINFORCEMENT: REINFORCE ALL WALLS WITH AT LEAST #4 @ 12 IN. EACH WAY EACH FACE AND 2 - #6 EACH EDGE, UNLESS DETAILED OTHERWISE.

D. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL SO AS TO CAUSE SEGREGATION OF AGGREGATES. HOPPERS, VERTICAL CHUTES, OR TRUNKS SHALL BE USED IN SUFFICIENT NUMBERS SO THAT THE FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED SIX FEET AND TO ENSURE CONCRETE IS KEPT LEVEL AT ALL TIMES.

E. EXISTING SURFACE TREATMENT: PRIOR TO PLACING FRESH CONCRETE AGAINST CONCRETE IN PLACE, THE CONTACT SURFACES SHALL BE CLEANED, ALL LAITANCE SHALL BE REMOVED, AND A CHEMICAL BONDING COMPOUND APPLIED. WHERE NOTED, ROUGHEN EXISTING CONCRETE SURFACES COMMON WITH NEW CONCRETE TO AMPLITUDE OF 1/4 INCH.

F. FORMWORK, SHORING AND RESHORING: SHALL BE DESIGNED AND SUBMITTED BY THE CONTRACTOR'S ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION WITH ALL SUBMISSIONS BEARING THE ENGINEER'S SEAL AND SIGNATURE.

G. ALL KEYS SHALL BE 1.5" DEEP UNLESS NOTED OTHERWISE.

H. INSERTS AND SLEEVES: CONTRACTOR SHALL FURNISH DIMENSIONED SHOP DRAWINGS AT ALL LEVELS SHOWING LOCATIONS OF ALL CAST-IN-PLACE SLEEVES, INSERTS AND OPENINGS REQUIRED BY ALL TRADES FOR REVIEW BY THE MEP, ARCHITECT AND STRUCTURAL ENGINEER, IN THAT ORDER. NO SLEEVES SHALL BE PLACED THROUGH CONCRETE ELEMENT UNLESS SHOWN ON THE APPROVED SHOP DRAWINGS OR SPECIFICALLY AUTHORIZED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD.

I. CORES AND DRILLED FASTENERS:

1. DRILLED OR POWDER DRIVEN FASTENERS WILL BE PERMITTED WHEN PROVEN TO THE SATISFACTION OF THE STRUCTURAL ENGINEER THAT THE FASTENERS WILL NOT SPALL THE CONCRETE OR DAMAGE EXISTING REINFORCEMENT.

2. CORE DRILLING OF FOUNDATIONS, BEAMS, JOISTS, COLUMNS OR ANY POST-TENSIONED MEMBER SHALL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE STRUCTURAL ENGINEER.

3. WHEN INSTALLING EXPANSION OR ADHESIVE ANCHORS, THE CONTRACTOR SHALL TAKE MEASURES TO AVOID DRILLING OR CUTTING OF ANY EXISTING REINFORCING AND DESTRUCTION OF CONCRETE. ALL BOLTS AND ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.

J. FLOOR SLABS SHALL BE FINISHED TO A MINIMUM FLATNESS F-5 (NUMBER FF-20) AND A MINIMUM LEVELNESS F-6 (NUMBER FF-17) IN ANY DIRECTION. ALL CONCRETE SHALL BE CURED WITH LIQUID SEALING COMPOUND CONFORMING TO ASTM C-309, TYPE I AND FEDERAL SPECIFICATION TT-C-0800 OR OTHER APPROVED METHOD WHICH IS COMPATIBLE WITH FLOORING ADHESIVES AND OTHER TREATMENTS.

K. ALL INTERIOR CONCRETE SHALL RECEIVE A STEEL TOWELED FINISH. EXTERIOR SLABS ON GRADE TO RECEIVE A BROOM FINISH, UNLESS NOTED OTHERWISE. SUBMIT FINISHED SCHEDULE TO ARCHITECT FOR APPROVAL.

L. CHAMFER ALL EXPOSED CONCRETE CORNERS 3/4" IN, 3/4" IN. MINIMUM, UNLESS NOTED OTHERWISE ON THE ARCHITECTURAL DRAWINGS.

M. WATERSTOPS: AS SPECIFIED ON THE ARCHITECTURAL DRAWINGS, PROVIDE CONTINUOUS WATERSTOPS AT ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS IN ALL BELOW GRADE FOUNDATION WALLS, ELEVATOR PITS AND OTHER PIT WALLS.

N. CONCRETE QUANTITIES: THE CONCRETE SLABS SHALL BE FINISHED, WITHIN TOLERANCE AND FLOOR FLATNESS REQUIREMENTS, TO THE ELEVATIONS INDICATED ON THE DRAWINGS. CONTRACTOR SHALL PROVIDE AT THEIR COST, ADDITIONAL CONCRETE AS REQUIRED DUE TO FORMWORK DEFLECTION TO ACHIEVE THIS FINISHED TOP OF SLAB ELEVATION. REFER TO PART 58 FOR CONCRETE PLACEMENT AT SLABS ON DECK.

O. LOADS GREATER THAN THE DESIGN LIVE LOAD ARE NOT TO BE PLACED ON THE STRUCTURE. A CONCRETE STRUCTURE MAY NOT SUPPORT ITS DESIGN LIVE LOAD UNTIL IT HAS REACHED ITS SPECIFIED STRENGTH. CONTRACTOR SHALL SUPPORT ADJACENT STRUCTURES, UTILITIES, AND EXCAVATIONS AS REQUIRED FOR COMPLETION OF WORK.

P. IT IS NOT PERMISSIBLE TO LEAVE THE APPLICATION OF CURING COMPOUND UNTIL THE MORNING AFTER THE CONCRETE IS CAST.

Q. CONCRETE CAST ON SLOPED SURFACES SHALL BEGIN AT THE LOWEST ELEVATION AND CONTINUE MONOTONICALLY TOWARD THE HIGHER ELEVATION UNTIL THE INTENDED POUR IS COMPLETED.

R. CONDUITS IN CONCRETE SLABS SHALL BE SPACED SUCH THAT THE CENTER TO CENTER DISTANCE BETWEEN CONDUITS IS A MINIMUM OF THREE TIMES THE OUTSIDE DIAMETER OF THE LARGEST CONDUIT.

S. CONDUITS IN CONCRETE SLAB HAVING OUTSIDE DIAMETER LARGER THAN ONE THIRD OF THE SLAB THICKNESS SHALL NOT BE PERMITTED. CONDUITS THAT CROSS EACH OTHER WITHIN THE SLAB SHALL NOT CONSUME MORE THAN ONE THIRD OF THE SLAB THICKNESS AT THE POINT OF INTERSECTION.

T. FOR ELEVATED SLABS WHICH ARE AT LEAST ONE THIRD THICKNESS SHALL BE DEFINED AS THE CLEAR DIMENSION ABOVE THE RIBS.

U. ALUMINUM CONDUITS WILL NOT BE PERMITTED IN CONCRETE ELEMENTS.

V. AT STOOPS AT EXTERIOR DOORS, PROVIDE 5' x 5' STOOPT WITH TURNDOWN ALL EDGES TO FROST DEPTH, UNDO.

3.7 SPlicing AND PLACEMENT OF REINFORCEMENT:

A. NO SPlicing OF REINFORCEMENT SHALL BE PERMITTED EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. MAKE BARS CONTINUOUS AROUND CORNERS. WHEN PERMITTED, SPLICES SHALL BE MADE BY CONTACT TENSION LAP SPLICE, UNLESS NOTED OTHERWISE.

B. SPLICE WELDED WIRE REINFORCEMENT TWO FULL MESH LENGTHS AND WIRE TOGETHER.

C. SPLICE BARS AS SHOWN ON DRAWINGS BUT NOT LESS THAN 50 BAR DIAMETERS FOR SLABS AND BEAM BOTTOM BARS, AND NOT LESS THAN 65 BAR DIAMETERS FOR WALLS AND BEAM TOP STEEL.

D. NO WELDING OF REINFORCING SHALL BE PERMITTED UNLESS SPECIFICALLY CALLED FOR OR APPROVED BY THE STRUCTURAL ENGINEER.

E. WELDED WIRE REINFORCING SHALL HAVE ENDS LAPPED ONE FULL PANEL AND SPLICE LACED WITH WIRE.

F. ANY MECHANICAL SPLICES USED, MUST BE 'TENSION-COMPRESSION' TYPE AND SHALL COMPLY WITH ACI 318 UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER. SHOP DRAWINGS SUBMITTED FOR THE ENGINEER'S APPROVAL MUST INDICATE THE USE AND THE TYPE OF ANY MECHANICAL SPLICES USED.

G. PROVIDE #4 CHAIR BARS, HIGH CHAIRS, TIES, CLIPS, SLAB BOLSTERS AND OTHER ACCESSORIES WHERE NOT SPECIFIED ON THE DRAWINGS IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE OR DETAILING REINFORCING CONCRETE STRUCTURES ACI 315 OR CRSI MANUAL OF STANDARD PRACTICE. USE PLASTIC TIES ON ALL CHAIRS PLACED ON THE SIDES OF CONCRETE FORMWORK.

H. PROVIDE PLASTIC TYPED BOLSTERS AND CHAIRS AT ALL LOCATIONS WHERE THE CONCRETE SURFACE IS IN CONTACT WITH THE BOLSTERS OR CHAIRS IS EXPOSED.

3.8 REINFORCEMENT SHOP DRAWINGS:

A. SUBMIT FOR APPROVAL, COMPLETE BENDING AND PLACING DETAILS OF ALL REINFORCEMENT INCLUDING WELDED WIRE REINFORCEMENT, INDICATING POSITION OF SPICES. INCLUDE ACCESSORY DRAWINGS. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315 AND ACI 318.

B. UNAUTHORIZED REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR RE-SUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.

3.9 HOUSEKEEPING PADS AND CURBS:

A. PADS AND CURBS MAY BE SHOWN ON PLANS IN CERTAIN INSTANCES FOR REFERENCE ONLY. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS FOR LOCATIONS AND COORDINATE WITH EQUIPMENT MANUFACTURERS REQUIREMENTS. USE SAME CONCRETE AS BASE SLAB, UNLESS DETAILED OTHERWISE.

B. PROVIDE 4" CONCRETE PADS REINFORCED WITH #3 REBAR AT 12" E-W. AT MID DEPTH AT ALL EQUIPMENT SUPPORTED ON SLABS ON GRADE OR ON FRAMED FLOORS UNLESS NOTED OTHERWISE. USE LIGHTWEIGHT CONCRETE FOR ALL PADS ON FRAMED FLOORS. PAD SHALL EXTEND 6" MINIMUM ON ALL SIDES OF THE EQUIPMENT.

3.10 CONSTRUCTION JOINTS:

A. SUBMIT SHOP DRAWINGS INDICATING JOINT LAYOUT FOR ARCHITECT/ENGINEER APPROVAL.

3.11 CONCRETE SLAB ON GRADE CONSTRUCTION:

A. THE CONCRETE SLABS ON GRADE FOR THIS PROJECT HAVE BEEN DESIGNED UTILIZING A MODULUS OF SUBGRADE REACTION "K" EQUAL TO 150 PCI FOR ALL WALL AREAS, 100 PCI FOR ALL OTHER AREAS, AND OTHER STORAGE AREAS, AND A MODULUS OF SUBGRADE REACTION "K" EQUAL TO 100 PCI FOR ALL OTHER AREAS OF THE CONCRETE SLABS ON GRADE.

B. PLEASE NOTE THAT THE CONCRETE SLABS ON GRADE THROUGHOUT THIS PROJECT ARE NOT DESIGNED TO SUPPORT THE CRANES USED DURING THE ERECTION OF THE STRUCTURAL STEEL OR PRECAST WALL PANELS. IF THE CONTRACTOR ELECTS TO PLACE THE CRANE ON THE CONCRETE SLAB ON GRADE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE ALL NECESSARY PRECAUTIONS, INCLUDING THE TEMPORARY INSTALLATION OF WOOD CRANES ON THE SLAB ON GRADE. ALL CRACKS FROM FORMING IN THE SLAB ON GRADE, ALL CRACKS WHICH FORM IN THE CONCRETE SLABS ON GRADE DUE TO THE CRANE BEING PLACED ON THE SLAB WILL BE REPAIRED OR REPAIRED TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND OWNER AT THE CONTRACTOR'S EXPENSE.

3.12 ARCHITECTURAL PRECAST CONCRETE:

A. REFER TO ARCHITECTURAL DRAWINGS AND DETAILS FOR TYPE AND LOCATION OF PANELS.

B. DESIGN SHALL BE IN ACCORDANCE WITH ACI AND PCI REQUIREMENTS BY THE PRECAST MANUFACTURER'S ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION FOR THE LIVE, SUPERIMPOSED DEAD, AND LATERAL LOADS REQUIRED BY THESE DOCUMENTS. ALL SUBMITTALS SHALL BEAR THIS ENGINEER'S SEAL AND SIGNATURE.

C. PRECAST MEMBERS MAY REQUIRE ELECTRICAL CONDUIT, JUNCTION BOXES, OPENINGS, ETC. FOR THE PASSAGE OF UTILITIES. THEY MAY ALSO REQUIRE INSERTS, PLATES AND OTHER ACCESSORIES FOR THE PASSAGE OF UTILITIES. SEE ARCHITECTURAL AND MECHANICAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR ITEMS REQUIRED AND THEIR POSITIONING. COORDINATE WITH APPROPRIATE TRADES, CHAMBERS, REVEALS, REGLETS, ETC. ARE NOT INDICATED ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS.

D. METHOD AND LOCATIONS OF ATTACHMENT SHALL BE IN ACCORDANCE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS UNLESS INDICATED OTHERWISE.

E. SUBMIT CALCULATIONS FOR PRECAST MEMBERS SHOWING A RATIONAL COMPLETE LOAD PATH, INCLUDING EFFECTS ON SUPPORTING MEMBERS. CONCRETE SHALL BE DESIGNED SO THAT NO ECCENTRIC OR TORSIONAL FORCES ARE INDUCED IN THE SUPPORTING MEMBERS. CALCULATIONS SHALL CLEARLY INDICATE ALL LOADS IMPOSED UPON THE SUPPORTING STRUCTURAL SYSTEM. REVIEW OF THE CALCULATIONS BY THE STRUCTURAL ENGINEER SHALL BE SOLELY FOR THE PURPOSE OF EVALUATING THE IMPACT OF THESE LOADS ON THE SUPPORTING STRUCTURAL SYSTEM.

[illegible]

PART 5A - STRUCTURAL STEEL

- 5A.1 CODES:
- A. "STEEL CONSTRUCTION MANUAL", FIFTEENTH EDITION, AMERICAN INSTITUTE OF STEEL CONSTRUCTION INC, 2017, (INCLUDING THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS, AND THE CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES).
- B. "STRUCTURAL WELDING CODE - STEEL", AWS D1.1, AMERICAN WELDING SOCIETY.
- 5A.2 STRUCTURAL SHAPES:
- A. WIDE FLANGE SHAPES: ASTM A992
- B. ANGLES, PLATES AND CHANNELS: ASTM A36
- C. STRUCTURAL PIPE: ASTM A53, TYPE E, GRADE B, FY=35 KSI OR ASTM A501
- D. ROUND HSS SHAPES: ASTM A500, GRADE B, FY=42 KSI
- E. RECTANGULAR HSS SHAPES: ASTM A500, GRADE B, FY=46 KSI
- 5A.3 FASTENERS, CONNECTORS:
- A. HIGH STRENGTH BOLTS: ASTM A325-N (UNLESS DETAILED OTHERWISE) TENSION-CONTROL BOLTS ACCEPTABLE.
- B. ANCHOR RODS: ASTM F1554, GRADE 36 (UNLESS DETAILED OTHERWISE)
- C. SMOOTH OR THREADED ROD: ASTM A36
- D. HEADED SHEAR STUDS: ASTM A108, GRADE 1015 OR 1020
- E. WELDING ELECTRODES: CONFORM TO AWS SPECIFICATIONS FOR ELECTRODES BASED ON WELDING PROCESS AND THE TYPE AND GRADE OF STEEL. E70X ELECTRODES (MIN.) FOR FILLET WELDS.
- F. EXPANSION ANCHORS (CONCRETE): HILTI KWIK BOLT TZZ EXPANSION ANCHORS, ICC ESR-4266, UNO.
- G. ADHESIVE ANCHORS (CONCRETE): HILTI HIT HY 200 ADHESIVE ANCHORS, ICC ESR-4868, UNO.
- H. SCREW ANCHORS (CONCRETE): HILTI KH-EZ (KWIK HUS) CONCRETE SCREWS, ICC ESR-3027, UNO.
- I. ALL POST-INSTALLED ANCHORS: SHALL BE INSTALLED & INSPECTED PER MANUFACTURER'S RECOMMENDATIONS. UNLESS OTHERWISE NOTED EMBED BOLTS 10 BOLT DIAMETERS.
- 5A.4 SHOP DRAWINGS:
- A. ERECTION AND DETAIL DRAWINGS.
- B. MILL TEST RECORDS.
- C. CONNECTION CALCULATIONS.
- 5A.5 ERECTION:
- A. PROVIDE ANCHOR RODS, STEEL WEDGES, THREADED SCREWS OR SHIMS TO SUPPORT AND PLUMB ALL COLUMNS. GROUT SOLID UNDER BASE PLATES IMMEDIATELY AFTER COLUMNS ARE PLUMB.
- B. PROVIDE BEARING PLATES AND WALL ANCHORS OR ANCHOR RODS FOR ALL BEAMS RESTING ON CONCRETE AND ALL OTHER NECESSARY CONNECTING HARDWARE. SET ANCHOR RODS USING TEMPLATE.
- C. DO NOT FIELD CUT, SPLICE, OR FIELD MODIFY ANY STRUCTURAL STEEL WITHOUT PRIOR WRITTEN APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER FOR EACH SPECIFIC CASE.
- D. THE GENERAL CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY FABRICATION OR ERECTION ERRORS OR DEVIATIONS AND RECEIVE WRITTEN APPROVAL BEFORE ANY FIELD CORRECTIONS ARE MADE. GAS CUTTING TORCHES SHALL NOT BE USED TO CORRECT FABRICATION ERRORS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
- E. PERMANENT FRAMING AND FINAL CONNECTION DETAILS ARE SHOWN ON THE DRAWINGS. THE FABRICATOR AND ERECTOR ARE RESPONSIBLE FOR THE DESIGN OF TEMPORARY BRACING AND RECOMMENDED ERECTION PROCEDURES.
- 5A.6 CONNECTIONS:
- A. ALL CONNECTIONS, SPLICES AND ERECTION PIECES SHALL BE DESIGNED BY THE FABRICATOR'S ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION. CALCULATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED BEARING THE ENGINEER'S SEAL AND SIGNATURE. ALTERNATE CONNECTION DESIGNS SHALL ONLY BE ALLOWED WITH PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
- B. ALL SHOP AND FIELD CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS OR WELDS. ALL HIGH STRENGTH BOLTS AND NUTS SHALL BE CLEARLY MARKED AS REQUIRED BY AISC SPECIFICATION. CONNECTIONS MADE WITH UNMARKED BOLTS AND NUTS WILL BE REJECTED.
- C. PROVIDE ACCESS FOR INSPECTION OF ALL SHOP AND FIELD CONNECTIONS FOR PROPER MATERIAL AND WORKMANSHIP.
- D. CONNECTIONS SHALL BE SELECTED FOR REACTIONS AS SHOWN ON PLANS AND AS DETAILED AND SCHEDULED. NO CONNECTION SHALL CONSIST OF LESS THAN (2) 3/4 IN. DIAMETER A325-N BOLTS OR WELDS DEVELOPING LESS THAN 15,000 POUNDS (FACTORED). MINIMUM WELD: 3/16 IN. FILLET.
- E. UNLESS DETAILED OTHERWISE, ALL A325 BOLTS SHALL BE TIGHTENED TO THE "SNUG TIGHT" CONDITION DEFINED AS THE TIGHTNESS ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. THE SNUG TIGHT CONDITION MUST ENSURE THAT THE PILES OF THE CONNECTED MATERIALS HAVE BEEN BROUGHT INTO SNUG CONTACT.
- F. ALL A325 BOLTS SUBJECT TO DIRECT TENSION INCLUDING MOMENT, TRUSS, & BRACING CONNECTIONS, OR DESIGNED AS SLIP CRITICAL (NOTED SC IN DETAILS) SHALL BE PRE-TENSIONED IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS AS DESCRIBED IN THE AISC "MANUAL OF STEEL CONSTRUCTION": TURN-OF-NUT TIGHTENING, CALIBRATED WRENCH TIGHTENING, OR DIRECT TENSION INDICATOR TIGHTENING.
- G. ALL STEEL TUBE CONNECTIONS TO BEAMS AND COLUMNS SHALL BE END PLATE CONNECTIONS, UNO.
- H. MINIMUM BEARING PLATE THICKNESS SHALL BE 1/2 IN., UNO.
- I. WHEN INSTALLING POST-INSTALLED ANCHORS (EXPANSION BOLTS, ADHESIVE ANCHORS, SCREWS), THE CONTRACTOR SHALL TAKE MEASURES TO NOT DAMAGE ANY EXISTING REINFORCING. ALL BOLTS AND ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.
- J. WELDING ELECTRODES, WELDING PROCESS, MINIMUM PRE-HEAT AND INTERPASS TEMPERATURES SHALL BE IN ACCORDANCE WITH THE AISC AND AWS SPECIFICATIONS. ANY STRUCTURAL STEEL DAMAGED IN WELDING IS TO BE REPLACED OR REINFORCED AS ACCEPTABLE TO THE STRUCTURAL ENGINEER.
- K. WELDERS SHALL HAVE CURRENT EVIDENCE OF PASSING THE APPROPRIATE AWS QUALIFICATION TESTS. THE ENGINEER MAY REQUEST SUCH EVIDENCE AT ANY TIME DURING THE PROJECT.
- 5A.7 STEEL FINISH:
- A. PAINT: SHOP PRIME ALL STEEL NOT ENCASED IN CONCRETE OR NOT FIREPROOFED. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FINISH COAT REQUIREMENTS.
- B. ALL STEEL AT AND BELOW FINISHED GRADE OR FLOOR SLAB SHALL RECEIVE TWO (2) COATS OF BITUMINOUS PAINT OR 3 IN. MINIMUM CONCRETE COVER.
- C. ALL STRUCTURAL STEEL THAT IS LOCATED IN EXTERIOR AND UNHEATED SPACES AND WHICH IS EXPOSED FOR AESTHETICS, INCLUDING STEEL DIRECTLY EXPOSED TO WEATHER, SHALL BE POWER-TOOLED CLEANED AND PAINTED OR GALVANIZED ACCORDING TO DETAILS AND ARCHITECT'S SPECIFICATIONS. FOR MEMBERS THAT EXTEND FROM EXTERIOR TO INTERIOR SPACES, APPLIES FULL LENGTH.
- 5A.8 FRAMING:
- A. BEAMS ARE EQUALLY SPACED, UNLESS DIMENSIONED OTHERWISE ON PLAN.
- B. CANTILEVER BEAMS ARE SAME SIZE AS BACKSPAN, UNLESS NOTED OTHERWISE ON PLAN.
- C. CAMBER INDICATED ON THESE DRAWINGS IS THE REQUIRED CAMBER AT THE TIME OF ERECTION BEFORE PLACEMENT OF DECK. FABRICATE AND ERECT BEAMS WITH THE NATURAL AND MILL CAMBER UP.

PART 5B - STEEL DECK AND SHEAR STUDS

- 5B.1 CODES:
- A. "DESIGN MANUAL FLOOR DECKS AND ROOF DECKS", STEEL DECK INSTITUTE.
- B. AISI SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS.
- C. "STRUCTURAL WELDING CODE - STEEL", AWS D1.1, AMERICAN WELDING SOCIETY.
- D. "STRUCTURAL WELDING CODE - SHEET STEEL", AWS D1.3, AMERICAN WELDING SOCIETY.
- 5B.2 MATERIALS:
- A. GALVANIZED METAL DECK A653 (G90)
- 5B.3 GENERAL:
- A. DECK PROPERTIES ARE BASED ON PRODUCTS MANUFACTURED BY VULCRAFT. DECKS BY OTHER MANUFACTURERS MAY BE SUPPLIED PROVIDED SECTION PROPERTIES ARE WITHIN 5% OF THOSE SPECIFIED AND IF APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
- B. PROVIDE STEEL DECK WITH THE FOLLOWING MINIMUM SECTION PROPERTIES:
- | DECK TYPE | IP (IN"4) | SP (IN"3) | SN (IN"3) |
|--|-----------|-----------|-----------|
| 1. 1-1/2" DEEP - 20 GAGE, TYPE B, ROOF DECK (1.58) | 0.201 | 0.234 | 0.247 |
- C. INSTALL IN ACCORDANCE WITH SDI SUGGESTED SPECIFICATIONS UNLESS NOTED OTHERWISE ON THE DRAWINGS. INDIVIDUAL SHEETS SHALL EXTEND OVER AT LEAST THREE SPANS, WITH LAPS TO BE PLACED OVER SUPPORTS, UNO.
- D. EXCEPT WHERE NOTED ON PLANS, DECK SUPPLIER SHALL PROVIDE ALL ADDITIONAL FRAMING TO SUPPORT DECK AT OPENINGS THROUGH DECK AND ALL CLOSURE ANGLES AND PLATES WERE REQUIRED TO RESULT IN A COMPLETE INSTALLATION.
- E. USE WELDING WASHERS FOR DECK MATERIAL 0.028 IN. THICK OR LESS AND WHERE RECOMMENDED BY THE DECK MANUFACTURER.
- F. ROOF AND NON-COMPOSITE DECKS SHALL BE WELDED TO STEEL SUPPORTS, INCLUDING THE EDGE SUPPORT PARALLEL TO THE DECK SPAN WITH 5/8 IN. DIAMETER (EFFECTIVE FUSION DIAMETER) PLUG WELDS IN 24/3, 30/4, OR 36/4 PATTERNS, UNO. FASTEN SIDE LAPS WITH 1-1/2" SEAM WELDS OR #10 SELF-TAPPING SCREWS AT A MAXIMUM SPACING OF 12" OC, UNO.

PART 5C - STEEL JOISTS

- 5C.1 CODES:
- A. "STANDARD SPECIFICATION FOR K-SERIES, LH-SERIES, AND DLH-SERIES OPEN WEB STEEL JOISTS AND FOR JOIST GIRDERS", STEEL JOIST INSTITUTE.
- 5C.2 STEEL JOISTS:
- A. PROVIDE OPEN-WEB STEEL JOISTS CONFORMING TO THE REQUIREMENTS OF THE SJI. FOR SIZE, TYPE, LENGTH AND SPACING SEE THE CONTRACT DOCUMENTS. PROVIDE BOTTOM CHORD EXTENSIONS AT ALL COLUMNS AND WHERE SPECIFIED BY THE ARCHITECTURAL DRAWINGS.
- 5C.3 UPLIFT:
- A. DESIGN AND ANCHOR ROOF JOISTS TO RESIST MINIMUM NET UPLIFT (LRFD) AS SPECIED ON DRAWINGS. JOIST MANUFACTURER SHALL PROVIDE ADDITIONAL BRIDGING AS NEEDED TO BRACE THE BOTTOM CHORD, INCLUDING THE FIRST PANEL POINT FROM THE SUPPORT, TO RESIST ASSOCIATED COMPRESSION STRESSES.
- 5C.4 BRIDGING:
- A. PROVIDE BRIDGING AND CROSS-BRACING CONFORMING TO THE REQUIREMENTS OF THE SJI. JOIST SUPPLIER TO PROVIDE CONNECTIONS FOR CROSS BRACING. ALL BRIDGING, BRIDGING ANCHORS AND JOIST SEATS SHALL BE COMPLETELY INSTALLED PRIOR TO THE APPLICATION OF ANY CONSTRUCTION LOADS.
- 5C.5 CONCENTRATED LOADS:
- A. APPLY SUSPENDED OR ROOF TOP CONCENTRATED LOADS AT PANEL POINTS OR PROVIDE SUPPLEMENTAL FRAMING TO TRANSFER LOADS TO PANEL POINTS.
- B. JOISTS USED IN MANUFACTURING, STORAGE WAREHOUSES, REPAIR GARAGES SHALL CONSIDER CONCENTRATED LIVE LOADS ON THE BOTTOM CHORD OF ROOF MEMBERS FOR 2,000# LOCATED ANYWHERE ALONG THE BOTTOM CHORD, IN ACCORDANCE WITH IBC CHAPTER 16 TABLE 1607.1. LOCAL BEND CHECKS SHALL BE PERFORMED BY THE JOIST MANUFACTURER.
- 5C.6 SPECIAL JOISTS:
- A. JOIST NOTED "###-SPJ" ON PLAN HAVE SPECIAL DESIGN REQUIREMENTS THAT ARE DETAILED ON THE DRAWINGS. THESE JOISTS SHALL BE DESIGNED BY THE JOIST MANUFACTURER'S ENGINEER FOR THE LOADINGS INDICATED AND SUBMIT SIGNED AND SEALED CALCULATIONS.
- 5C.7 PAINT:
- A. SHOP PRIME ALL STEEL JOISTS NOT FIREPROOFED. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FINISH COAT REQUIREMENTS.
- B. ALL STEEL JOISTS THAT ARE LOCATED IN EXTERIOR AND UNHEATED SPACES AND WHICH ARE EXPOSED FOR AESTHETICS, INCLUDING DIRECTLY EXPOSED TO WEATHER, SHALL BE POWER-TOOLED CLEANED AND PRIMED WITH A ZINC-RICH PRIMER ACCORDING TO DETAILS AND ARCHITECT'S SPECIFICATIONS. FOR MEMBERS THAT EXTEND FROM EXTERIOR TO INTERIOR SPACES, APPLIES FULL LENGTH.

PART 5D - STRUCTURAL COLD FORMED METAL FRAMING (CFMF)

- 5D.1 CODES:
- A. "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", AMERICAN IRON AND STEEL INSTITUTE, AISI S100.
- B. "NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL STRUCTURAL FRAMING - GENERAL PROVISIONS", AMERICAN IRON AND STEEL INSTITUTE, AISI S200.
- 5D.2 MATERIALS:
- A. STEEL SHEET: ASTM C955, OF GRADE AND COATING WEIGHT AS FOLLOWS:
- GRADE: 33 KSI MIN, 50 KSI FOR 16 GA & THICKER, OR AS REQUIRED FOR STRUCTURAL/ARCHITECTURAL PERFORMANCE.
 - COATING: G60 OR AS REQUIRED BY ARCHITECTURAL PERFORMANCE.
- B. STEEL SHEET FOR CLIPS: ASTM A 653, STRUCTURAL STEEL, ZINC COATED, OF GRADE AND COATING AS FOLLOWS:
- GRADE: 50 KSI MIN, OR AS REQUIRED FOR STRUCTURAL PERFORMANCE.
 - COATING: G90.
- C. STRUCTURAL STEEL SHAPES AND CLIPS: ASTM A 36, ZINC COATED BY HOT-DIP PROCESS ACCORDING TO ASTM A 123.
- 5D.3 ANCHORS AND FASTENERS:
- A. ANCHOR BOLTS: ASTM F 1554, GRADE 36, THREADED CARBON-STEEL AND CARBON-STEEL NUTS; AND FLAT, HARDENED-STEEL WASHERS; ZINC COATED BY HOT-DIP PROCESS ACCORDING TO ASTM A 153, CLASS C.
- B. EXPANSION ANCHORS: HILTI KWIK BOLT T2 EXPANSION ANCHORS. INSTALL PER HILTI INSTALLATION RECOMMENDATIONS. UNLESS OTHERWISE NOTED EMBED BOLTS 10 BOLT DIAMETERS.
- C. POWDER-ACTUATED ANCHORS: MANUFACTURED BY HILTI OR APPROVED EQUAL.
- D. MECHANICAL FASTENERS: ASTM C 1513, CORROSION-RESISTANT-COATED, SELF-DRILLING, SELF-TAPPING STEEL DRILL SCREWS.
- HEAD TYPE: LOW-PROFILE HEAD BENEATH SHEATHING, MANUFACTURER'S STANDARD ELSEWHERE.
- E. WELDING ELECTRODES: COMPLY WITH AWS STANDARDS.
- 5D.4 FRAMING SIZES:
- A. FRAMING MEMBERS SHALL BE OF THE TYPE AND GAUGE CALLED FOR ON THE DRAWINGS OR AS REQUIRED FOR STRUCTURAL PERFORMANCE.
- B. USE 18 GA MINIMUM FOR STRUCTURAL MEMBERS, EXTERIOR WALLS, AND MEMBERS SUPPORTING MASONRY.
- 5D.5 FRAMING SIZES:
- A. THE CONTRACTOR SHALL DESIGN THE COLD FORMED METAL FRAMING SYSTEMS NOT INDICATED ON THE DRAWINGS AND SUBMIT SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS. THE FRAMING SYSTEMS SHALL CONFORM TO THE CONCEPTS INDICATED ON THE DRAWINGS AND WITH THE MINIMUM SIZES AND GAUGES INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS.
- B. COLD-FORMED STEEL FRAMING DESIGN, GENERAL: DESIGN ACCORDING TO AISI'S "STANDARD FOR COLD-FORMED STEEL FRAMING - GENERAL PROVISIONS."
- HEADERS: DESIGN ACCORDING TO AISI'S "STANDARD FOR COLD-FORMED STEEL FRAMING - HEADER DESIGN."
 - DESIGN EXTERIOR NON-LOAD-BEARING WALL FRAMING TO ACCOMMODATE HORIZONTAL DEFLECTION WITHOUT REGARD FOR CONTRIBUTION OF SHEATHING MATERIALS.
 - ROOF TRUSSES: DESIGN ACCORDING TO AISI'S "STANDARD FOR COLD-FORMED STEEL FRAMING - TRUSS DESIGN."
- 5D.6 GENERAL:
- A. DESIGN OF ALL COLD-FORMED METAL FRAMING SYSTEMS AND CONNECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL BE BY THE FABRICATOR'S ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION, FOR ALL FRAMING SIZES AND CONNECTIONS NOT INDICATED ON THE DRAWINGS. CALCULATIONS AND SHOP DRAWINGS CONSISTING OF FRAMING PLANS, ELEVATIONS, AND DETAILS SHALL BE SUBMITTED BEARING THIS ENGINEER SEAL AND SIGNATURE.
- B. MEMBER DESIGNATIONS AND PROPERTIES ARE BASE ON DIETRICH INDUSTRIES, INC. STEEL FRAMING CATALOG. FRAMING BY OTHER MANUFACTURERS MAY BE SUPPLIED PROVIDED SECTION PROPERTIES EQUAL OR EXCEED THOSE SPECIFIED AND IF APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
- C. CONTENTS OF THESE STRUCTURAL DOCUMENTS SHOW THE INTENDED APPLICATION OF COLD-FORMED FRAMING COMPONENTS.
- D. ALL DIMENSIONS SHOWN ON THE STRUCTURAL DOCUMENTS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND MECHANICAL DOCUMENTS PRIOR TO CONSTRUCTION OR FABRICATION.
- E. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR AS REQUIRED FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD POSITIVELY IN PLACE UNTIL PROPERLY FASTENED.
- F. ALL FIELD CUTTING OF STUDS MUST BE DONE BY SAWING OR SHEARING. TORCH CUTTING OF COLD-FORMED MEMBERS IS UNACCEPTABLE.
- G. SPLICES IN STUDS, JOISTS, OR OTHER LOAD CARRYING MEMBERS ARE NOT PERMITTED.
- H. ALL STRUCTURAL COLD-FORMED METAL FRAMING (EXCLUDING STUDS) MEMBERS SHALL BE UN-PUNCHED UNLESS SPECIFICALLY NOTED OTHERWISE.
- I. LATERAL BRIDGING SHALL BE USED TO PROVIDE LATERAL STABILITY OF LOAD BEARING STUDS, SPACED AT 4'-0" OC VERTICALLY, UNO. FOR AXIAL LOAD BEARING CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ADEQUATE WALL BRACING/BRIDGING IS IN PLACE PRIOR TO LOADING. THESE MEMBERS AND UNTIL SHEATHING IS PROPERLY ATTACHED TO BOTH STUD FLANGES. CONTRACTOR SHALL NOT OVERLOAD BEARING MEMBERS DURING CONSTRUCTION.
- J. CONNECTIONS SHALL BE BY WELDING, SCREWING, OR OTHER APPROVED FASTENING DEVICES OR METHODS PROVIDING POSITIVE ATTACHMENT AND RESISTANCE TO LOOSENING. FASTENERS SHALL BE OF COMPATIBLE MATERIAL. WHENEVER POSSIBLE, CONNECTIONS SHALL FOLLOW THE RECOMMENDATIONS MADE BY THE METAL LATH AND STEEL FRAMING ASSOCIATION. THE CONTRACTOR SHALL CONFIRM THAT THE FASTENERS THEY INTEND TO USE MEETS OR EXCEEDS THE DESIGN VALUES SHOWN IN THE SUBMITTED CALCULATIONS. IF WELDING, CARE MUST BE TAKEN TO NOT BURN COLD FORMED METAL.
- K. TOUCH-UP ALL WELDS (IF USED) WITH ZINC RICH PAINT.
- L. FOR FASTENERS PROVIDE THE MINIMUM CLEARANCES, FASTENER SPACING, AND EDGE DISTANCE AS NOTED BELOW, UNLESS OTHERWISE NOTED OR DETAILED:
- | FASTENER TYPE | SPACING | EDGE DISTANCE |
|--|-----------|---------------|
| 1. SCREWS: | 1 1/2 IN. | 1/2 IN. |
| 2. POWDER DRIVEN FASTENERS (STEEL): | 1 1/2 IN. | 1/2 IN. |
| 3. POWDER DRIVEN FASTENERS (CONCRETE): | 4 IN. | 3 IN. |
- M. ALTERNATE CONNECTION DESIGNS SHALL ONLY BE ALLOWED WITH PRIOR APPROVAL OF THE STRUCTURAL ENGINEER. IF SUCH APPROVAL IS GRANTED, ALL CONNECTIONS AND/OR DETAILS NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS SHALL BE PREPARED BY THE CONTRACTOR'S ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION. CALCULATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED BEARING THE ENGINEER'S SEAL AND SIGNATURE.
- N. ATTACH ALL EXTERIOR SHEATHING AND INTERIOR SHEATHING AT BEARING WALLS TO METAL STUDS WITH #6 SCREWS SPACED AT 6" OC AT ALL PANEL EDGES AND INTERMEDIATE SUPPORTS, UNO.
- O. WHERE EXTERIOR CLADDING IS SUPPORTED BY COLD FORMED METAL FRAMING OR HAT CHANNELS (CLADDING WEIGHT NOT TO EXCEED 10 PSF), SHEATHING ON CFMF TO BE 5/8 IN. THICK ADVANTECH OR PLYWOOD, EXPOSURE 1, STRUCTURAL 1 SPAN RATING 40/20. ATTACH TO CFMF (SPACED AT 16" OC MAXIMUM) WITH #10 SCREWS SPACED AT 8" OC AT ALL CFMF, AND AT PARAPETS #10 SCREWS SPACED AT 6" OC AT ALL CFMF, UNO.
- P. THE CONTRACTOR SHALL SUBMIT FOR REVIEW DRAWINGS AND CALCULATIONS, SIGNED AND SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION, FOR THE EXTERIOR COLD-FORMED METAL FRAMING SYSTEM AND RELATED CONNECTIONS. THE DESIGN SHALL TAKE INTO ACCOUNT ALL VERTICAL AND LATERAL LOADS REQUIRED BY THE APPLICABLE BUILDING CODES. THIS REVIEW SHALL BE FOR GENERAL CONFORMANCE WITH THE PROJECT'S PARAMETERS AS INDICATED ON THE DRAWINGS AND IN THE GENERAL NOTES. THE DESIGN OF THIS SYSTEM IS THE RESPONSIBILITY OF THE ENGINEER WHO HAS SIGNED AND SEALED THE SHOP DRAWINGS AND CALCULATIONS. REFER TO PART 1.

PART 31 - FOUNDATIONS / EARTHWORK / GEOTECHNICAL REPORT

- 31.1 REFERENCE GEOTECHNICAL REPORT:
- A. FOUNDATION DESIGN IS IN ACCORDANCE WITH THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT PREPARED BY ECS FLORIDA, DATED NOVEMBER 28, 2023, AUTHOR'S PROJECT NUMBER 24-7489. REQUIREMENTS CONTAINED IN THE GEOTECHNICAL REPORT ARE PART OF THIS WORK/ CONTRACT DOCUMENTS.
- B. SEE THE GEOTECHNICAL REPORT REQUIREMENTS FOR EXCAVATION, SUITABILITY AND REPLACEMENT OF THE BEARING MATERIAL, AND PREPARATION OF THE SUBGRADE FOR THE FOUNDATIONS AND THE SLAB ON GRADE, INCLUDING COMPACTION PROCEDURES.
- C. IF UNSUITABLE BEARING MATERIAL IS DISCOVERED THE GEOTECHNICAL ENGINEER SHALL BE ALERTED.
- 31.2 FOUNDATION DESIGN PARAMETERS
- A. ALL FOUNDATIONS SHALL BEAR A MINIMUM OF 12" BELOW ADJACENT EXTERIOR GRADE. THE CONTRACTOR SHALL COORDINATE THESE REQUIREMENTS WITH ALL UNDERGROUND UTILITIES, TUNNELS, ETC. AND NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER IN ADVANCE OF ANY CONSTRUCTION TO ALLOW FOR ADJUSTMENTS.
- B. SHALLOW FOUNDATIONS:
- BUILDING SPREAD AND STRIP FOOTINGS SHALL BEAR ON UNDISTURBED NATURAL SOILS OR PROPERLY PLACED AND COMPACTED ENGINEERED FILL WITH AN ALLOWABLE BEARING PRESSURE OF 2500 PSF.
- 31.3 EXCAVATION:
- A. THE SLOPE BETWEEN THE LOWER EDGES OF ADJACENT FOUNDATIONS SHALL NOT EXCEED 30 DEGREES REFERENCED FROM THE HORIZONTAL, UNLESS NOTED OR DETAILED OTHERWISE ON THE PLAN. MAINTAIN A 1V:2H SLOPE FROM BOTTOM EDGE OF ANY EXCAVATION, OR AS REQUIRED BY GEOTECHNICAL RECOMMENDATIONS OR OSHA REQUIREMENTS.
- B. THE CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS THAT MAY AFFECT THE INSTALLATION OF THE FOUNDATION SYSTEM AS SHOWN PRIOR TO STARTING WORK. CONTRACTOR SHALL COORDINATE THE EXTENT OF THE EXCAVATION, SHORING AND BRACING WITH THE CIVIL ENGINEER'S DRAWING AND REFER TO THOSE DRAWINGS AND SPECIFICATIONS FOR RELATED INFORMATION NOT COVERED IN THE STRUCTURAL DRAWINGS.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES, ABOVE AND BELOW GRADE STRUCTURES, ETC., WHETHER INDICATED OR NOT, THAT MAY BE AFFECTED BY THE CONSTRUCTION PROCESS.
- D. UTILITIES LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT THE STRUCTURAL ENGINEER'S APPROVAL UNLESS DETAILED OTHERWISE IN THE PLANS.
- E. ALL SHORING, TEMPORARY BRACED EXCAVATION (INCLUDING STAGED UNDERPINNING PITS), SHEETING AND DEWATERING SHALL BE THE TOTAL RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR'S ENGINEER, REGISTERED IN THE PROJECT'S JURISDICTION, SHALL DESIGN THE SHEETING AND SHORING, AND BRACED EXCAVATION AND PROVIDE SIGNED AND SEALED SUBMITTALS FOR REVIEW.
- 31.4 BACKFILL UNDER SLAB ON GRADE:
- A. BACKFILL WHERE REQUIRED BELOW SLABS WITH APPROVED GRANULAR SOIL PLACED IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.
- B. FOLLOWING REQUIRED STRIPPING OPERATIONS, ANY PROOFROLLING SHALL BE AS DIRECTED BY AN EXPERIENCED, QUALIFIED GEOTECHNICAL ENGINEER. THE PURPOSE OF PROOFROLLING WILL BE TO LOCATE ANY ISOLATED AREAS OF SOFT OR LOOSE SOILS REQUIRING IMPROVEMENT OR REPLACEMENT. SOFT AREAS SHALL BE UNDERCUT AND REPLACED WITH PROPERLY COMPACTED MATERIALS.
- 31.5 FOUNDATION PLACEMENT & PROTECTION:
- A. DO NOT PLACE FOUNDATION CONCRETE IN WATER OR ON FROZEN GROUND. PROTECT IN-PLACE FOUNDATIONS AND SLABS FROM FROST PENETRATION UNTIL THE PROJECT IS COMPLETE. DO NOT USE SALT OR CHLORIDE COMPOUNDS TO DE-ICE THE SITE.
- B. NEW FOOTING BEARING ELEVATION IS TO MATCH ADJACENT EXISTING FOOTING BEARING ELEVATION WHERE APPLICABLE UNLESS NOTED OR DETAILED OTHERWISE ON PLAN.
- C. CONCRETE FOR FOUNDATIONS SHALL BE POURED ON THE SAME DAY SUBGRADE APPROVAL IS GIVEN BY THE GEOTECHNICAL ENGINEER.
- D. BEARING ELEVATIONS INDICATED ON THE DRAWINGS ARE ESTIMATED FROM SOIL BEARING DATA INDICATED IN THE GEOTECHNICAL REPORT. PRIOR TO PLACING FOUNDATIONS, AN EXPERIENCED, QUALIFIED GEOTECHNICAL ENGINEER SHALL FIELD VERIFY ALLOWABLE BEARING PRESSURES AND DETERMINE FINAL BEARING ELEVATIONS.
- 31.6 STRUCTURAL FILL:
- A. REFER TO GEOTECHNICAL REPORT REQUIREMENTS FOR COMPACTED STRUCTURAL FILL. REQUIREMENTS CONTAINED IN THE GEOTECHNICAL REPORT ARE PART OF THIS WORK. INSPECTION OF THE PLACEMENT OF COMPACTED STRUCTURAL FILL SHALL BE BY AN EXPERIENCED, QUALIFIED GEOTECHNICAL ENGINEER.



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MASSEY CADILLAC SOUTH

NEW CONSTRUCTION

2698 J LAWSON BLVD
ORLANDO, FL 32824

Massey Cadillac South

2698 J LAWSON BLVD
ORLANDO, FL 32824



I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED STRUCTURAL ENGINEER UNDER THE LAWS OF THE STATE OF FLORIDA.

license number: PE88785 expiration date: 02/28/2025

PERMIT SET	12/11/2024
SONIC PRICING SET	12/10/2024
SONIC FINAL REVIEW	11/07/2024
90% SUBMISSION	10/17/2024
60% SUBMISSION / DDP2	09/10/2024
NO. ISSUE / REVISION	DATE
DRAWN BY:	ZK/NT
CHECKED BY:	RH/HBT
PLOT DATE:	12/10/2024

SHEET NUMBER

S-002

SHEET TITLE

GENERAL
NOTES

PROJECT NUMBER: S0002a SCALE: AS SHOWN

MASSEY CADILLAC SOUTH
NEW CONSTRUCTION
2698 J LAWSON BLVD
ORLANDO, FL 32824

Massey Cadillac South

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ORLANDO, FL 32824

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license number: PE88785 expiration date: 02/28/202

3	PERMIT REVISION 3	04/11/2017
	PERMIT SET	12/11/2017
	SONIC PRICING SET	12/10/2017
	SONIC FINAL REVIEW	11/07/2017
	90% SUBMISSION	10/17/2017
	60% SUBMISSION / DDP2	09/10/2017
NO.	ISSUE / REVISION	DATE

CHECKED BY:	RHH/BTS
PLOT DATE:	4/11/2025 5:07:21 PM

SHEET NUMBER

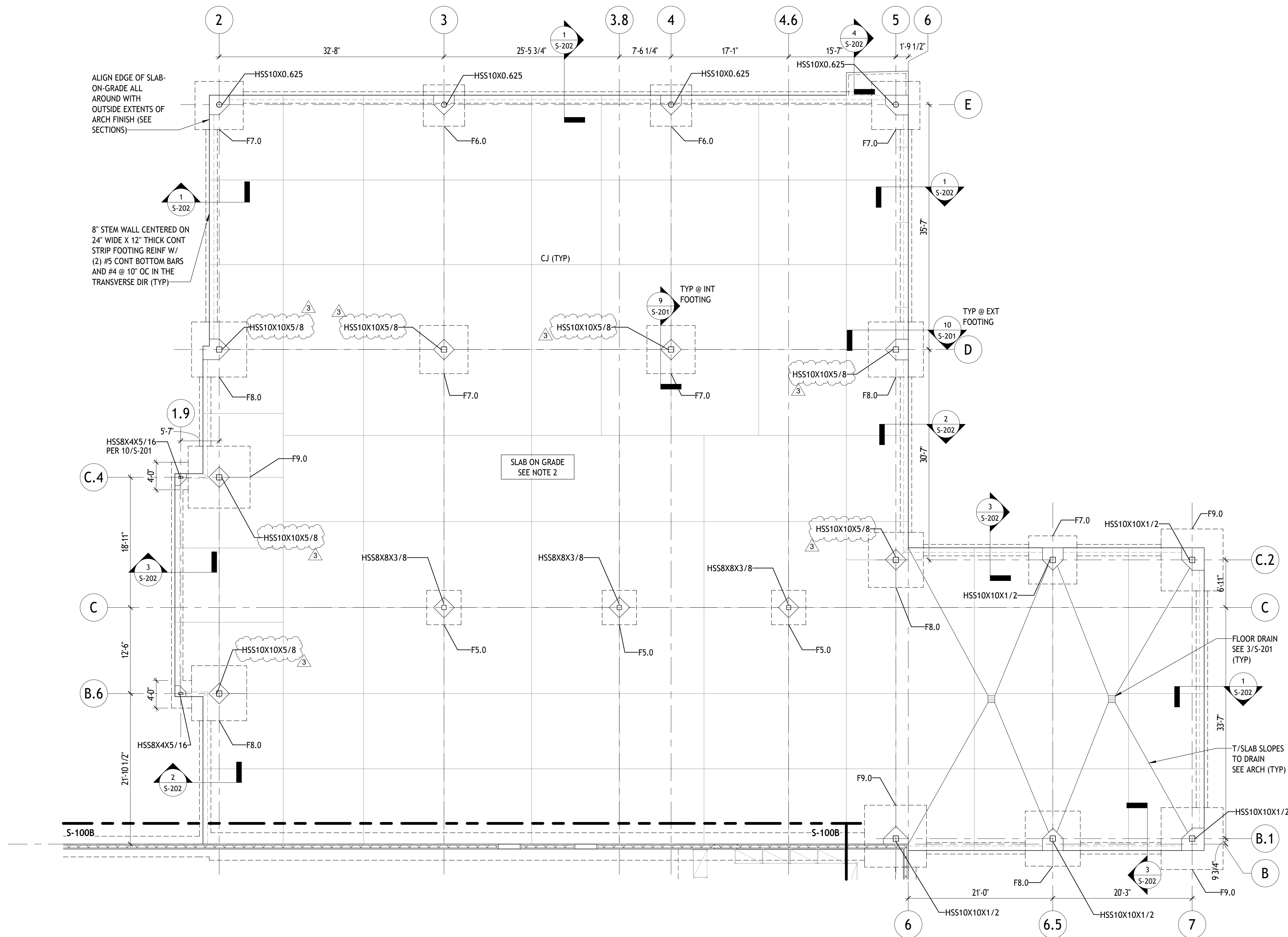
S-100A

SHEET TITLE

FOUNDATION
PLAN - SECTOR
A

PROJECT NUMBER
SON002a

SCALE:
1/8" = 1'-0"



A FOUNDATION PLAN - SECTOR A
1/8" = 1'-0"

PLAN NOTES

1. SEE GENERAL NOTES AND TYPICAL DETAILS FOR ADDITIONAL INFORMATION NOT SHOWN.
2. DENOTES SLAB ON GRADE SHALL BE 5" THICK REINFORCED WITH 6"x6" - W2.9/W2.9 WELDED WIRE REINFORCEMENT POURED OVER 10 MIL VAPOR BARRIER OVER COMPACTED SOIL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
3. TYPICAL ELEVATIONS:
 - * REFERENCE ELEVATION MEASURED FROM GROUND FLOOR DATUM = (0'-0"), ACTUAL ELEVATION = 84.5' (NAV.D)
 - * TOP OF SLAB ELEVATION = (0'-0"), REFERENCED FROM DATUM
 - * TOP OF FOOTING ELEVATION = (-1'-0"), TYP UNO. TOP OF FOOTING ELEVATIONS THAT DIFFER FROM TYPICAL NOTED THUS:
(XX'-XX"), REFERENCED FROM TOP OF SLAB ELEVATION
4. TYPICAL STEM WALL FOOTING SHALL BE 2'-0" WIDE X 1'-0" THICK REINFORCED WITH (3) #5 CONTINUOUS BOTTOM BARS AND #4 BARS AT 24" ON CENTER IN THE TRANSVERSE DIRECTION (W2.0), UNLESS NOTED OTHERWISE.
5. STAIRS SHALL BE DESIGNED FOR 100 PSF LIVE LOAD. SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR STAIR FRAMING SIGNED AND SEALED BY A REGISTERED MARYLAND PROFESSIONAL ENGINEER.
6. NOTATIONS ON THE PLANS DESIGNATE THE FOLLOWING:
 - CONCRETE PRECAST PANEL BY OTHERS

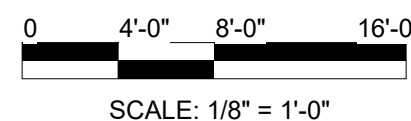
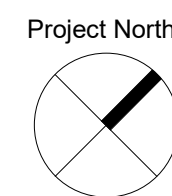
FOUNDATION SCHEDULE			
MARK	SIZE	THICKNESS	REINFORCING
F5.0	5' - 0"x5' - 0"	1' - 4"	(8) #5 BOT EW
F6.0	6' - 0"x6' - 0"	1' - 4"	(8) #5 T&B EW
F7.0	7' - 0"x7' - 0"	1' - 4"	(8) #5 T&B EW
F8.0	8' - 0"x8' - 0"	1' - 4"	(9) #6 T&B EW
F9.0	9' - 0"x9' - 0"	1' - 4"	(10) #6 T&B EW

THE STRUCTURE HAS BEEN DESIGNED AND DETAILED BASED ON ASSUMED SHOP EQUIPMENT AS LAID OUT BY THE ARCHITECT AND LISTED BELOW:

HIGH-SPEED ROLL UP DOORS BY RYTEC MODEL # XXX

THE FINAL SELECTION OF SHOP EQUIPMENT SHALL BE MADE AND THE LAYOUT APPROVED BY THE OWNER PRIOR TO ANY STRUCTURAL SUBMITTALS BEING SUBMITTED FOR REVIEW AND APPROVAL BY THE EOR OR ANY FABRICATION OR INSTALLATION OF ANY STRUCTURAL ELEMENTS. IN THE ABSENCE OF THIS PROCEDURE, ALL CHANGES TO DRAWINGS PLANS AND DETAILS WILL BE MADE AT THE OWNER'S EXPENSE AND WILL NOT BE PART OF THE ORIGINAL DESIGN CONTRACT BY THE ENGINEER OF RECORD.

SCALE & NORTH ARROW



SCALE: 1/8" = 1'-0"

Massey Cadillac South

BRIAN TARANTINO
LICENSE
No. 88354

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR
APPROVED BY ME, AND THAT I AM A DULY LICENSED
STRUCTURAL ENGINEER UNDER THE LAWS OF THE STATE
OF FLORIDA.

license number: PE88785 expiration date: 02/28/2025

	PERMIT SET	12/11/2024
	SONIC PRICING SET	12/10/2024
	SONIC FINAL REVIEW	11/07/2024
	90% SUBMISSION	10/17/2024
	60% SUBMISSION / DDP2	09/10/2024
NO.	ISSUE / REVISION	DATE
DRAWN BY:		ZK

CHECKED BY:	RHH/BTS
PLOT DATE:	12/10/2024 2:25:08 PM

SHEET NUMBER

S-100B

SHEET TITLE

FOUNDATION

PLAN - SECTOR

D

PROJECT NUMBER:	SCALE:
-----------------	--------



PLAN NOTES

1. SEE GENERAL NOTES AND TYPICAL DETAILS FOR ADDITIONAL INFORMATION NOT SHOWN.
2. DENOTES SLAB ON GRADE SHALL BE 5" THICK REINFORCED WITH 6"x6" - W2.9/W2.9 WELDED WIRE REINFORCEMENT POURED OVER 10 MIL VAPOR BARRIER OVER COMPACTED SOIL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
3. TYPICAL ELEVATIONS:
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 - TOP OF SLAB ELEVATION = (0'-0"), REFERENCED FROM DATUM
 - TOP OF FOOTING ELEVATION = (-1'-0"), TYP UNO. TOP OF FOOTING ELEVATIONS THAT DIFFER FROM TYPICAL NOTED THUS:
(XX'-XX"), REFERENCED FROM TOP OF SLAB ELEVATION
4. TYPICAL STEM WALL FOOTING SHALL BE 2'-0" WIDE X 1'-0" THICK REINFORCED WITH (3) #5 CONTINUOUS BOTTOM BARS AND #4 BARS AT 24" ON CENTER IN THE TRANSVERSE DIRECTION (W2.0), UNLESS NOTED OTHERWISE.
5. STAIRS SHALL BE DESIGNED FOR 100 PSF LIVE LOAD. SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR STAIR FRAMING SIGNED AND SEALED BY A REGISTERED MARYLAND PROFESSIONAL ENGINEER.
6. NOTATIONS ON THE PLANS DESIGNATE THE FOLLOWING:
 - CONCRETE PRECAST PANEL BY OTHERS

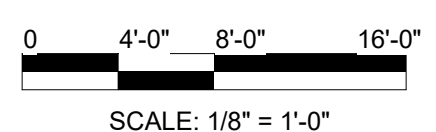
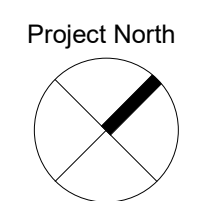
FOUNDATION SCHEDULE			
MARK	SIZE	THICKNESS	REINFORCING
F5.0	5' - 0"x5' - 0"	1' - 0"	(6) #5 BOT EW
F6.0	6' - 0"x6' - 0"	1' - 0"	(7) #5 T&B EW
F7.0	7' - 0"x7' - 0"	1' - 2"	(8) #5 T&B EW
F8.0	8' - 0"x8' - 0"	1' - 4"	(6) #6 T&B EW
F9.0	9' - 0"x9' - 0"	1' - 4"	(10) #6 T&B EW

THE STRUCTURE HAS BEEN DESIGNED AND DETAILED BASED ON ASSUMED SHOP EQUIPMENT AS LAID OUT BY THE ARCHITECT AND LISTED BELOW:

VEHICLE LIFTS BY ROTARY MODEL # SP012
HIGH-SPEED ROLL UP DOORS BY RYTEC MODEL # XXX
SCISSOR LIFT RACK MODEL # RX12KFIS

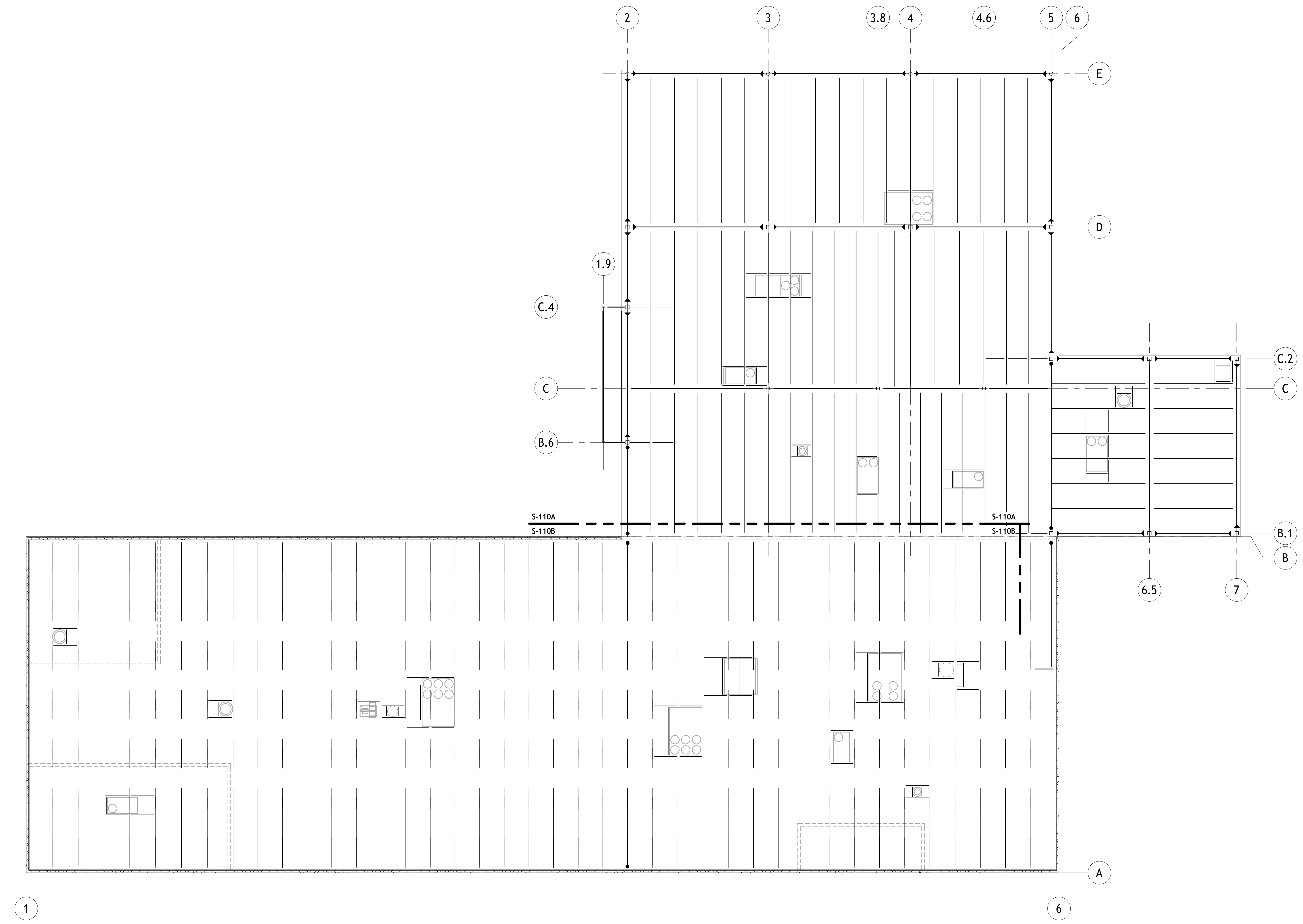
THE FINAL SELECTION OF SHOP EQUIPMENT SHALL BE MADE AND THE LAYOUT APPROVED BY THE OWNER PRIOR TO ANY STRUCTURAL SUBMITTALS BEING SUBMITTED FOR REVIEW AND APPROVAL BY THE EOR OR ANY FABRICATION OR INSTALLATION OF ANY STRUCTURAL ELEMENTS. IN THE ABSENCE OF THIS PROCEDURE, ALL CHANGES TO DRAWINGS PLANS AND DETAILS WILL BE MADE AT THE OWNER'S EXPENSE AND WILL NOT BE PART OF THE ORIGINAL DESIGN CONTRACT BY THE ENGINEER OF RECORD.

SCALE & NORTH ARROW



PROJECT NUMBER:	SCALE:
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SON002a	1/8" = 1'-0"
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1 ROOF FRAMING PLAN - OVERALL
3/32" = 1'-0"

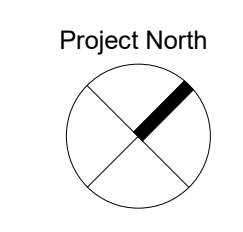
MASSEY CADILLAC SOUTH
NEW CONSTRUCTION
2698 J LAWSON BLVD
ORLANDO, FL 32824

Massey Cadillac South
2698 J LAWSON BLVD
ORLANDO, FL 32824

Brian Tarantino
Digital Signature
Brian Tarantino
Date: 2025.01.16
15:17:25 -05'00'
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED STRUCTURAL ENGINEER UNDER THE LAWS OF THE STATE OF FLORIDA.
license number: PE88785 expiration date: 02/28/2025

NO.	ISSUE / REVISION	DATE
1	PERMIT SET	12/11/2024
2	SONIC PRICING SET	12/10/2024
3	SONIC FINAL REVIEW	11/07/2024
4	90% SUBMISSION	10/17/2024
5	60% SUBMISSION / DDP2	09/10/2024
6	DRAWN BY:	ZK
7	CHECKED BY:	RHP/BTS
8	PLOT DATE:	12/10/2024 2:25:08 PM

SCALE & NORTH ARROW



0 8'-0" 16'-0" 32'-0"
SCALE: 3/32" = 1'-0"

SHEET NUMBER
S-110
SHEET TITLE
ROOF FRAMING PLAN - OVERALL
PROJECT NUMBER: SOW002a
SCALE: 3/32" = 1'-0"

Massey Cadillac South

Digitally signed

by Brian Tarantino

arantino Date: 2025.01.16

license number: PE88785 expiration date: 02/28/202

CHECKED BY: RHH/BTS

LOT DATE: 12/10/2024 9:50:10 PM

SHEET NUMBER

C 110A

S-110A

CONCLUSION

SHEET TITLE

ROOF FRAMING

PLAN SECTOR

PLAN - SECTOR

A

PROJECT NUMBER:	SCALE:
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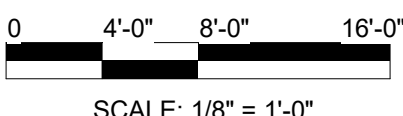
PLAN NOTES

- A=XXX AXIAL DRAG DESIGN LOAD (ULTIMATE)

 CONCRETE PRECAST PANEL BY OTHERS

XX KIPS (WIND)
(GRIDS X-X) LATERAL LOAD IMPOSED AT ROOF (ULTIMATE)

SCALE & NORTH ARROW



S-110A
SHEET TITLE
**ROOF FRAMING
PLAN - SECTOR
A**

PROJECT NUMBER:	SCALE:
-----------------	--------

SON002a	$1/8'' = 1'-0''$
---------	------------------

MASSEY CADILLAC SOUTH
NEW CONSTRUCTION
2698 J LAWSON BLVD
ORLANDO, FL 32824

Massey Cadillac South

2698 J LAWSON BLVD
ORLANDO, FL 32824



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STRUCTURAL ENGINEER UNDER THE LAWS OF THE STATE
OF FLORIDA.

license number: PE88785 expiration date: 02/28/20

	PERMIT SET	12/11/20
	SONIC PRICING SET	12/10/20
	SONIC FINAL REVIEW	11/07/20
	90% SUBMISSION	10/17/20
	60% SUBMISSION / DDP2	09/10/20
NO.	ISSUE / REVISION	DATE

DRAWN BY:	ZH
CHECKED BY:	RHH/BT

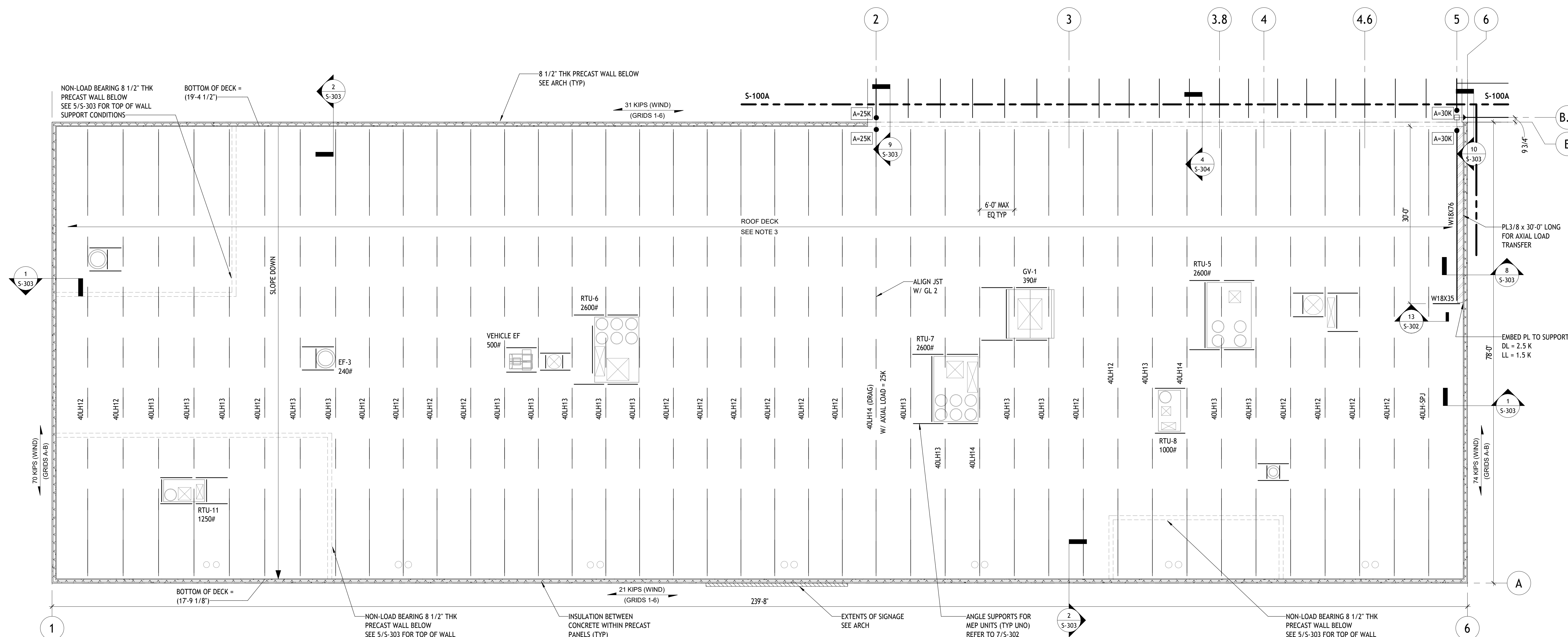
SHEET NUMBER

S-110B

SHEET TITLE

**ROOF FRAMING
PLAN - SECTOR
B**

PROJECT NUMBER: SON002a	SCALE: 1/8" = 1'-0"
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B ROOF FRAMING PLAN - SECTOR B
1/8" = 1'-0"

PLAN NOTES

1. REFERENCE ELEVATION MEASURED FROM TOP OF SLAB ON GRADE DATUM = (0'-0"). SEE S-100A/B FOR ACTUAL TOP OF SLAB ON GRADE ELEVATION.
2. ELEVATIONS ARE NOTED AS FOLLOWS, MEASURED FROM THE REFERENCE ELEVATION (X'-X") INDICATES TOP OF STEEL/BOTTOM OF DECK.
3. STRUCTURAL ROOF SHALL CONSIST OF 1 1/2" X 20 GA. TYPE B GALVANIZED METAL DECK (2 SPAN MIN.) SEE TYPICAL DETAILS FOR DECK ATTACHMENT.
4. REFER TO ARCHITECTURAL DRAWINGS FOR LODGE OF SLAB DIMENSIONS.
5. REINFORCE DECK AROUND PENETRATIONS PER DETAIL 7/5-302.
6. NOTATIONS ON THE PLANS DESIGNATE THE FOLLOWING:

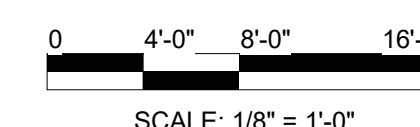
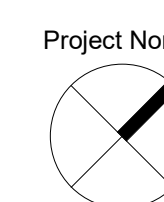
6. NOTATIONS ON THE PLANS DESIGNATE THE FOLLOWING:
- ▶ BEAM TO COLUMN OR GIRDER FULLY DEVELOPED MOMENT CONNECTION
 - BEAM TO COLUMN OR PRECAST AXIAL DRAG CONNECTION

A=XXX AXIAL DRAG DESIGN LOAD (ULTIMATE)

 CONCRETE PRECAST PANEL BY OTHERS

XX KIPS (WIND)
(GRIDS X-X) LATERAL LOAD IMPOSED AT ROOF (ULTIMATE)

SCALE & NORTH ARROW

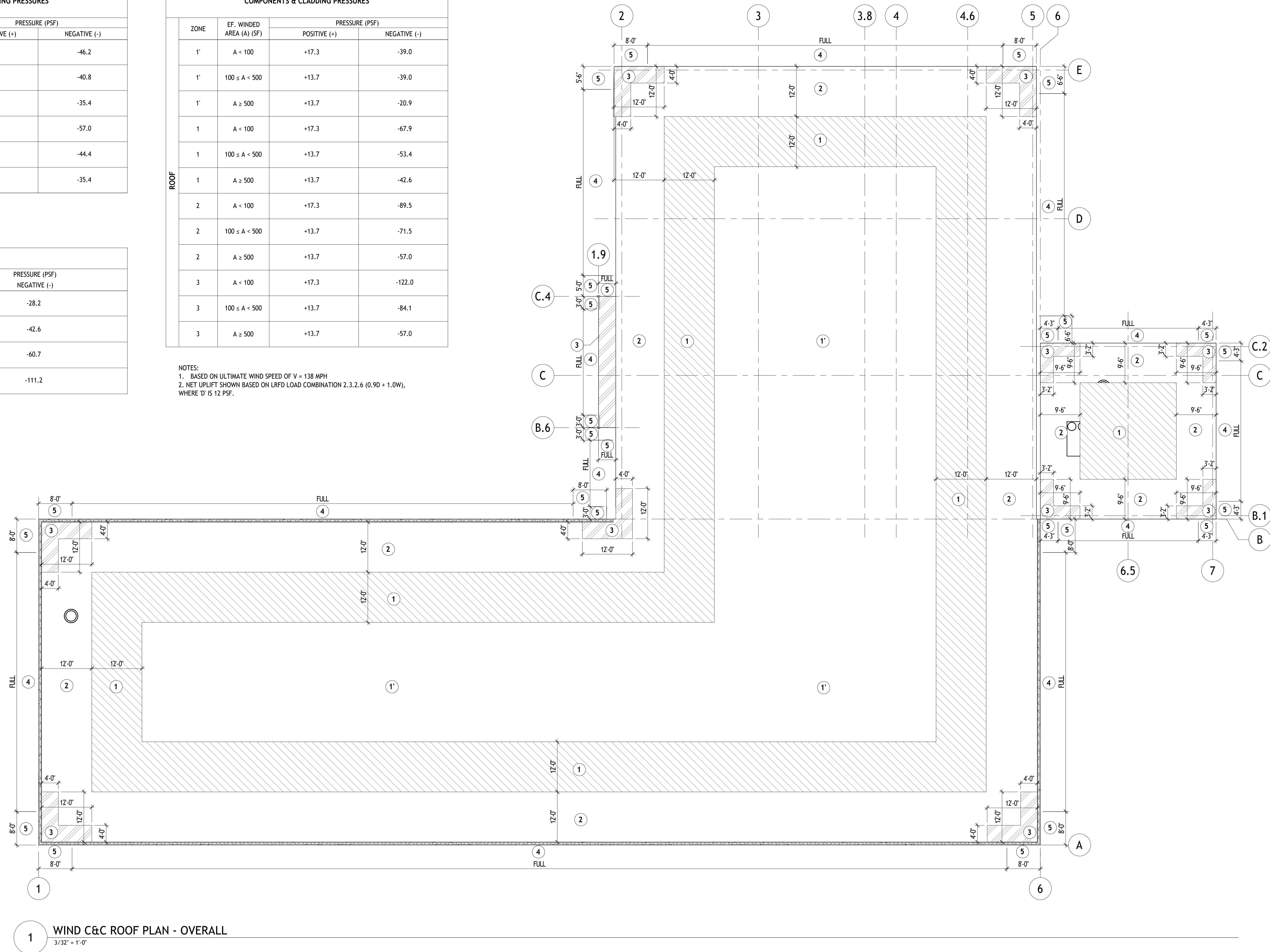


SCALE: 1/8" = 1'-0"

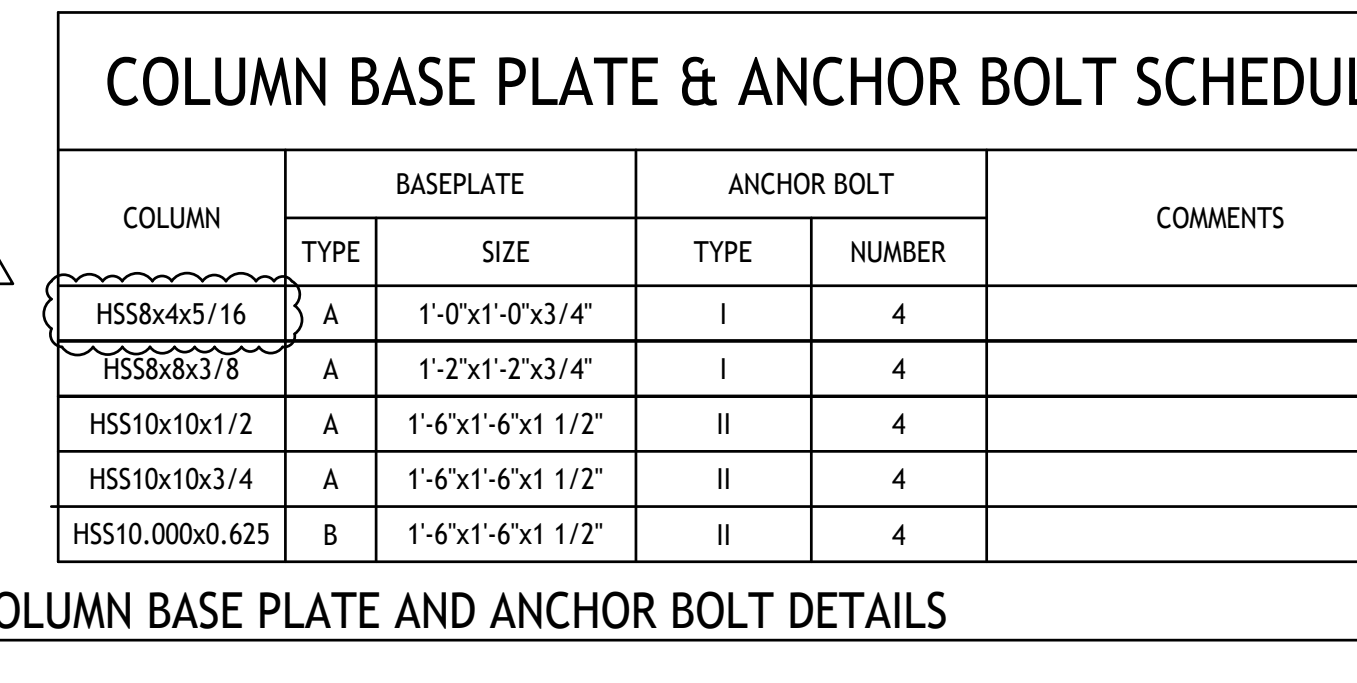
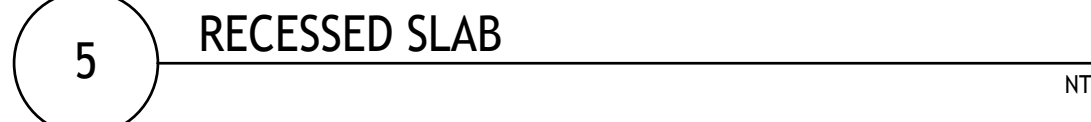
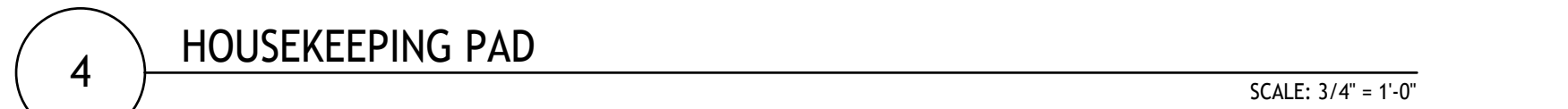
NET UPLIFT		
ZONE	EF. WINDED AREA (SF)	PRESSURE (PSF) NEGATIVE (-)
1'	A \geq 100	-28.2
1	A \geq 100	-42.6
2	A \geq 100	-60.7
3	A \geq 10	-111.2

NOTES:

1. BASED ON ULTIMATE WIND SPEED OF $V = 138$ MPH
2. NET UPLIFT SHOWN BASED ON LRFD LOAD COMBINATION 2.3.2.6 ($0.9D + 1.0W$), WHERE 'D' IS 12 PSF.



	PERMIT SET	12/11/2022
	SONIC PRICING SET	12/10/2022
	SONIC FINAL REVIEW	11/07/2022
	90% SUBMISSION	10/17/2022
NO.	ISSUE / REVISION	DATE



1000

Massey Cadillac South
2698 J LAWSON BLVD
ORLANDO, FL 32824

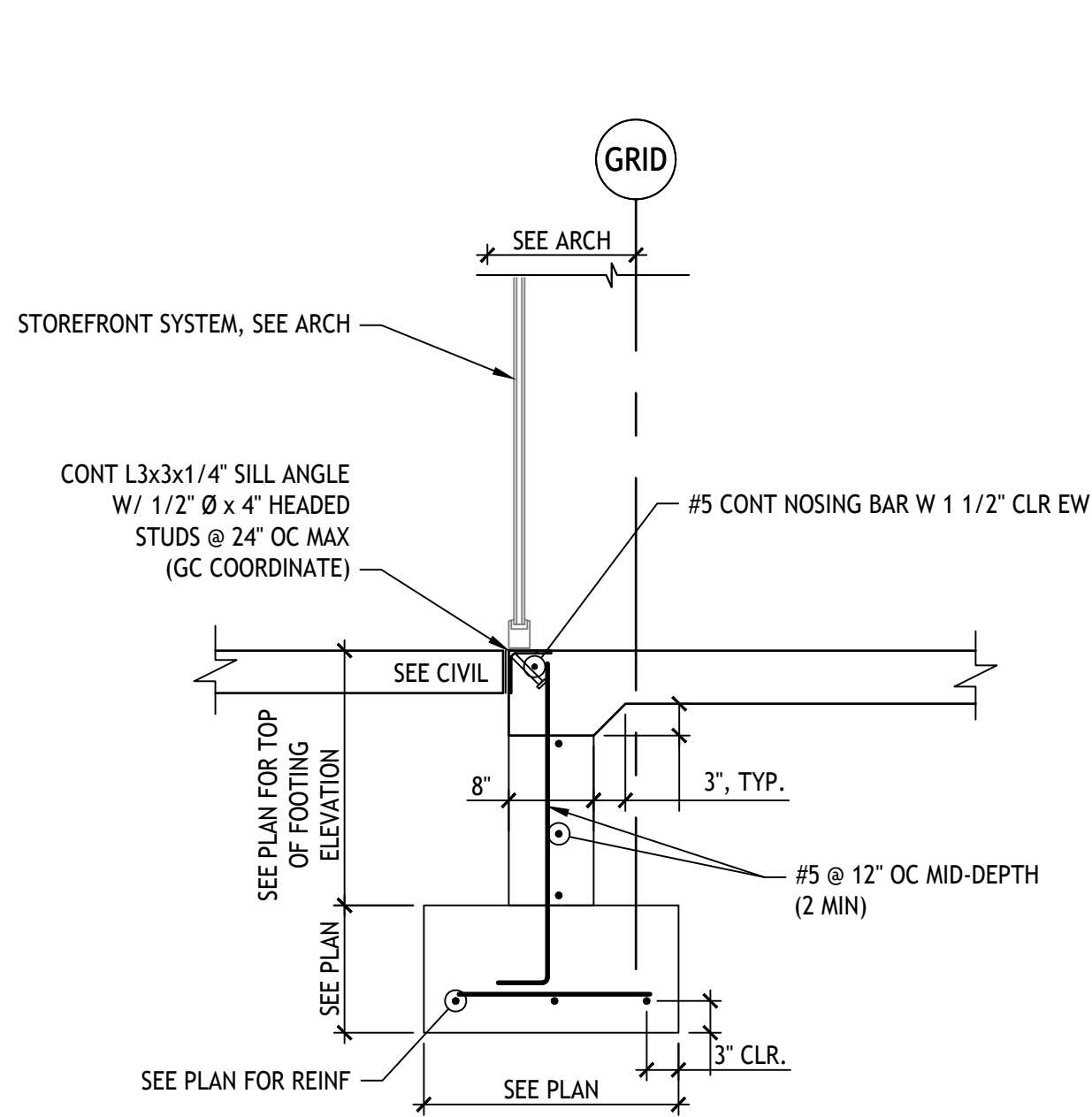
SHEET NUMBER

S-201

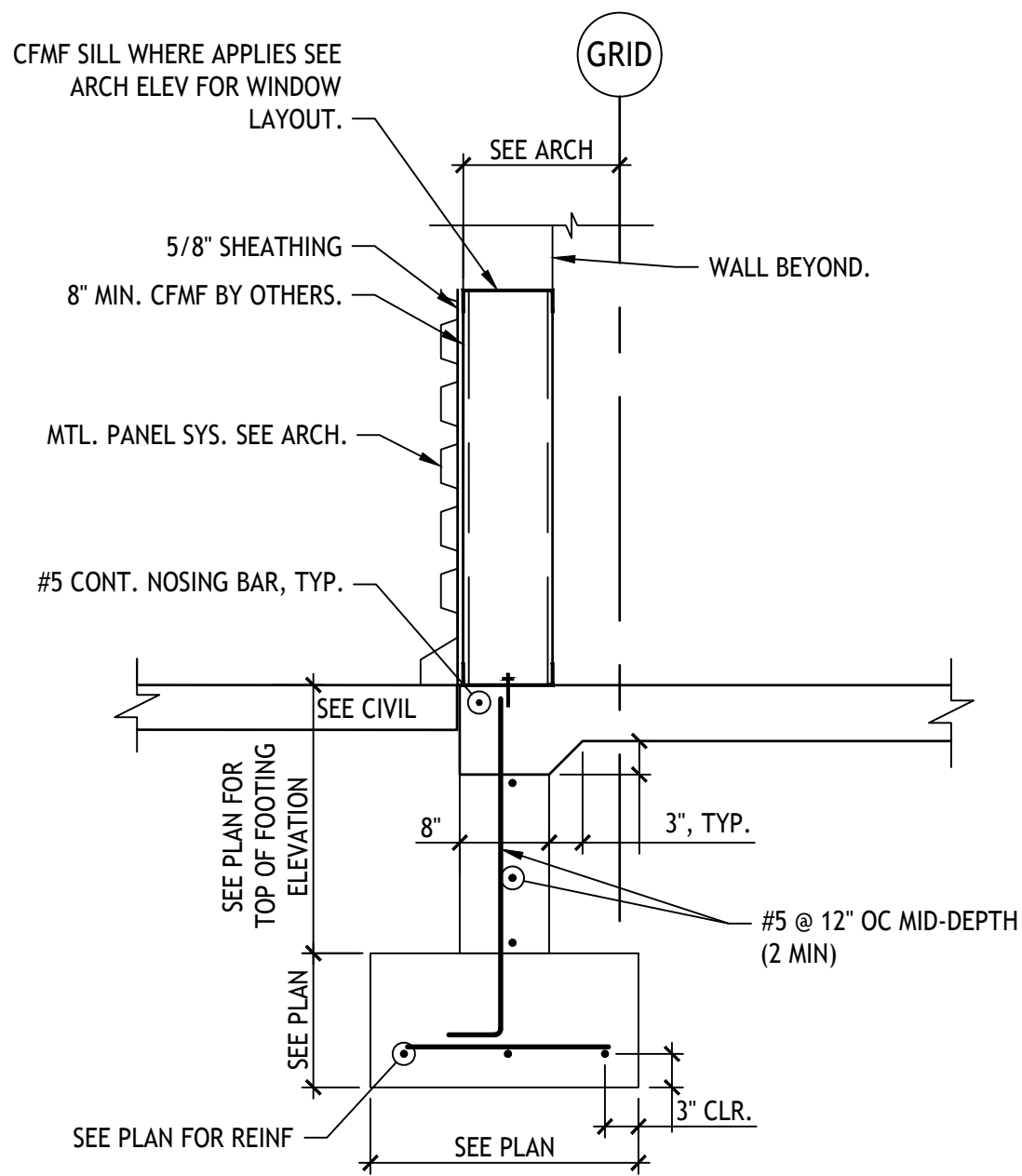
SHEET TITLE

**FOUNDATION
DETAILS**

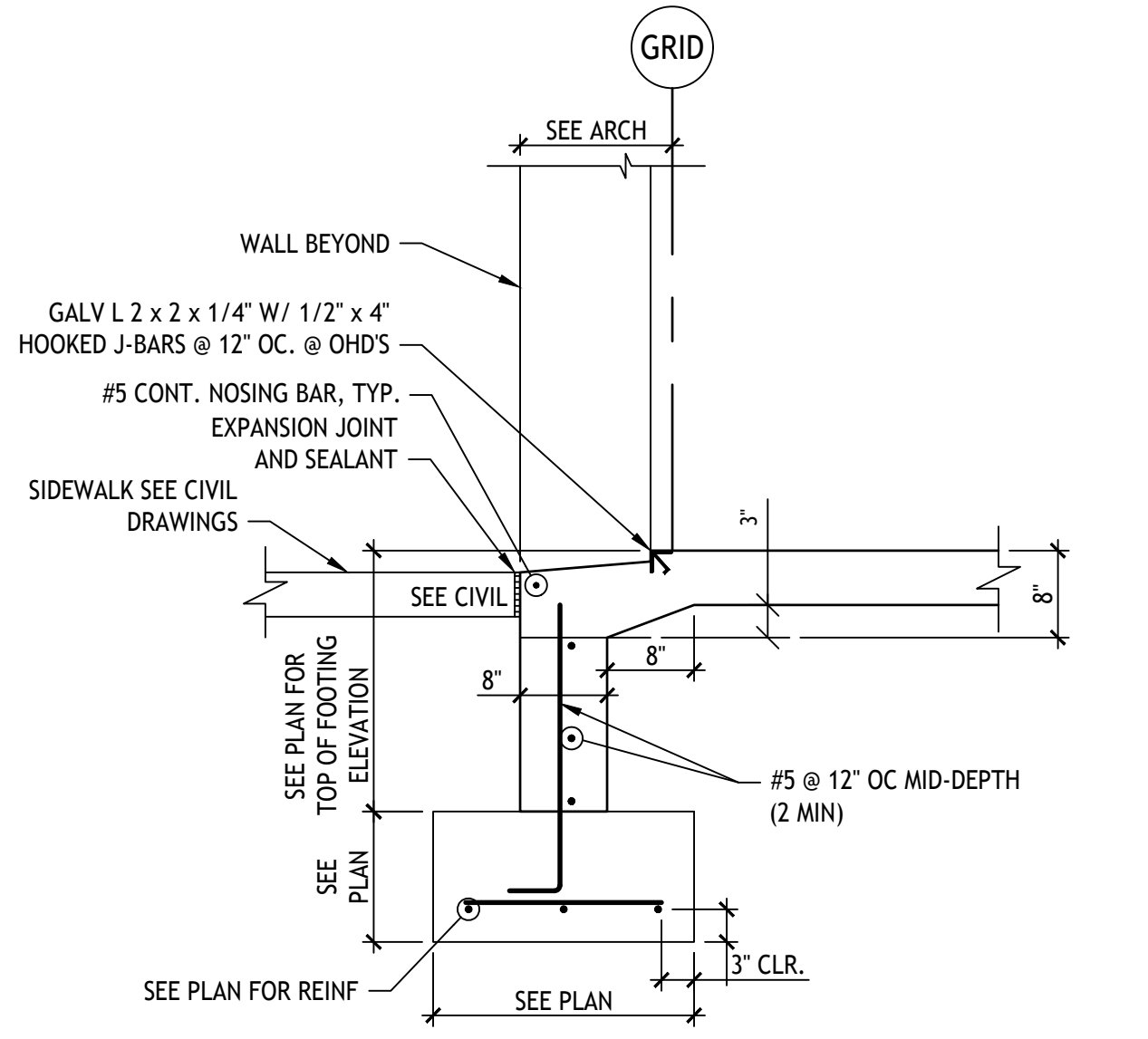
PROJECT NUMBER: SON002a	SCALE: AS SHOWN
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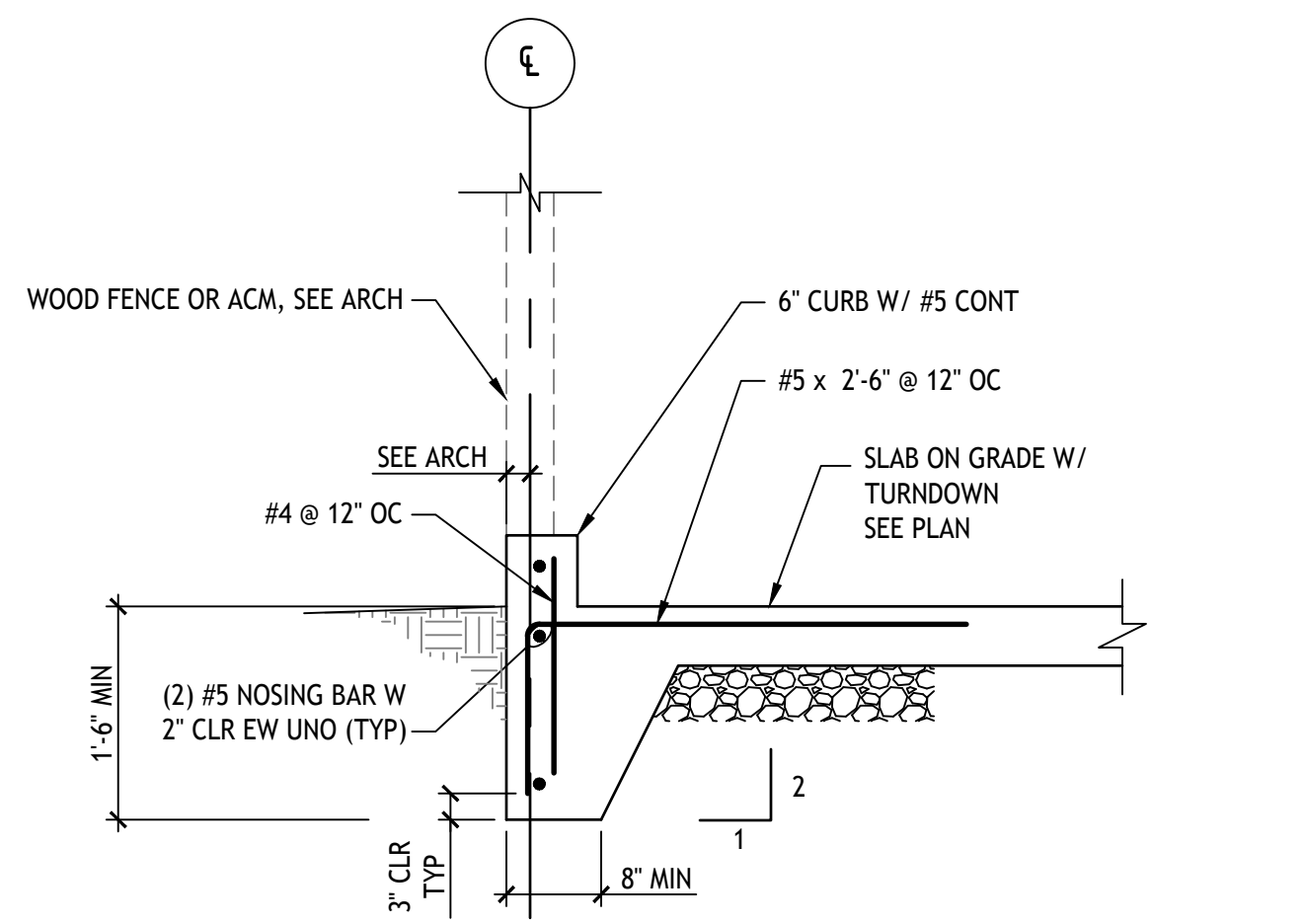
1 EXTERIOR FOUNDATION AT STOREFRONT
SCALE : 3/4" = 1'-0"



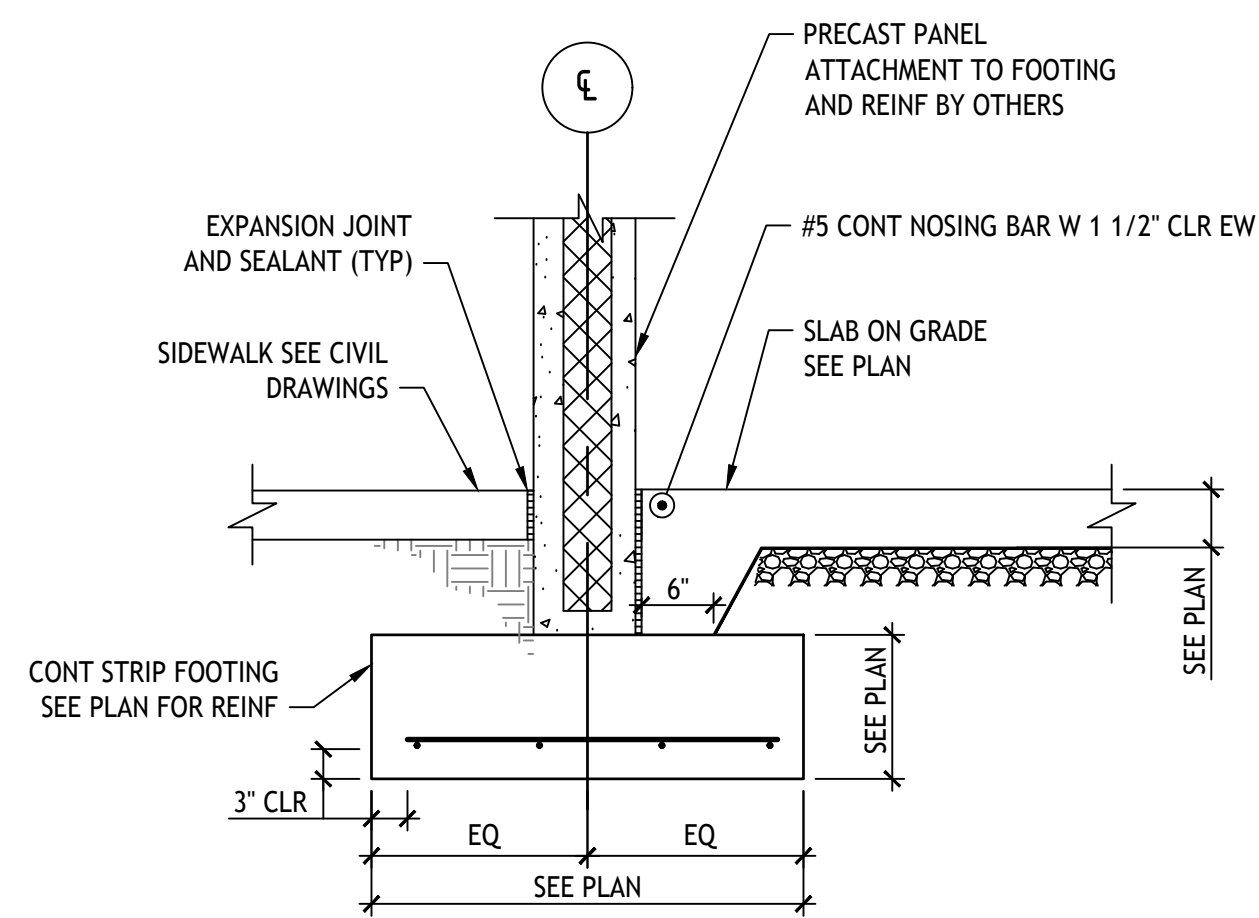
2 EXTERIOR FOUNDATION AT CFMF
SCALE : 3/4" = 1'-0"



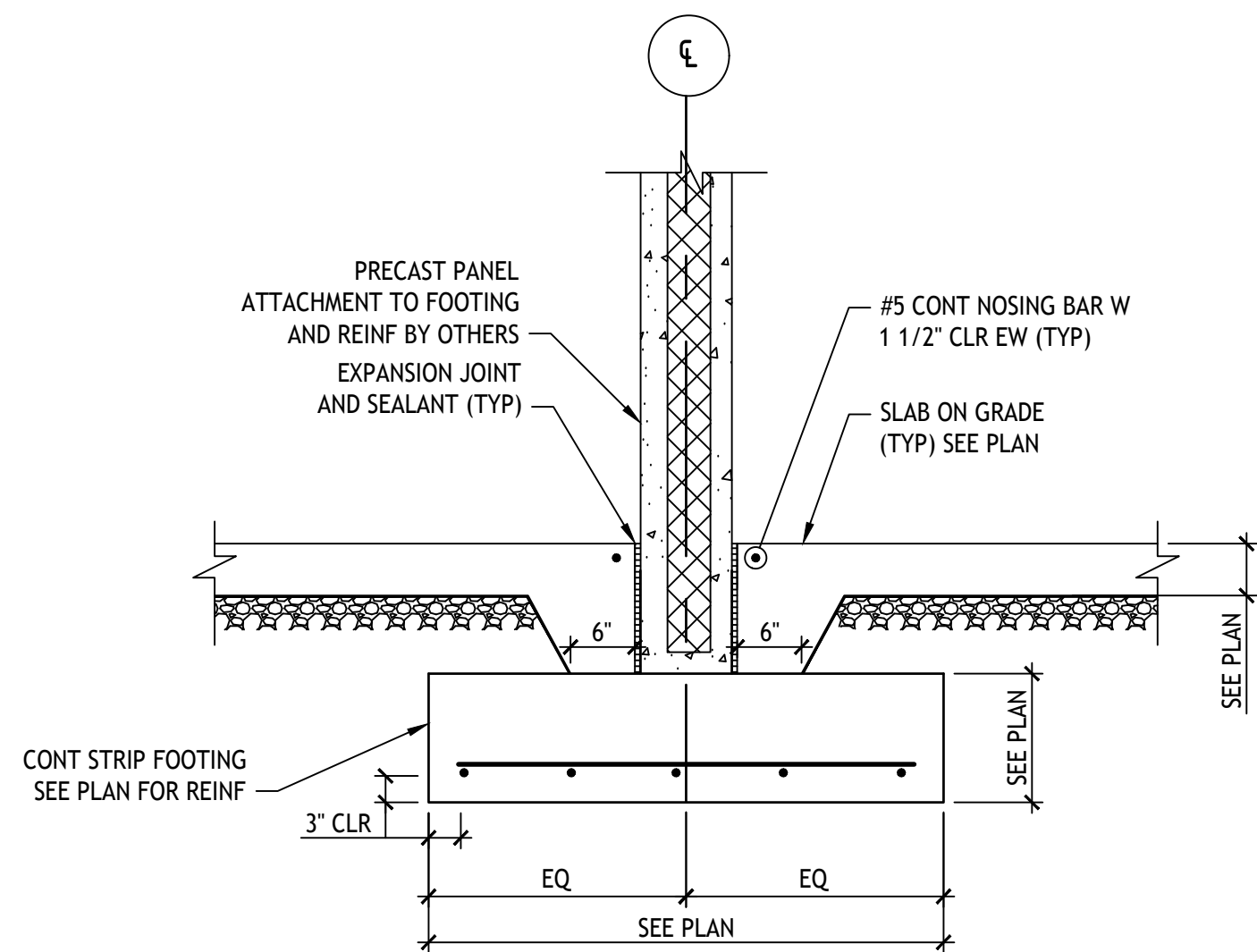
3 TYP. EXTERIOR WALL FOUNDATION @ OHD
SCALE : 3/4" = 1'-0"



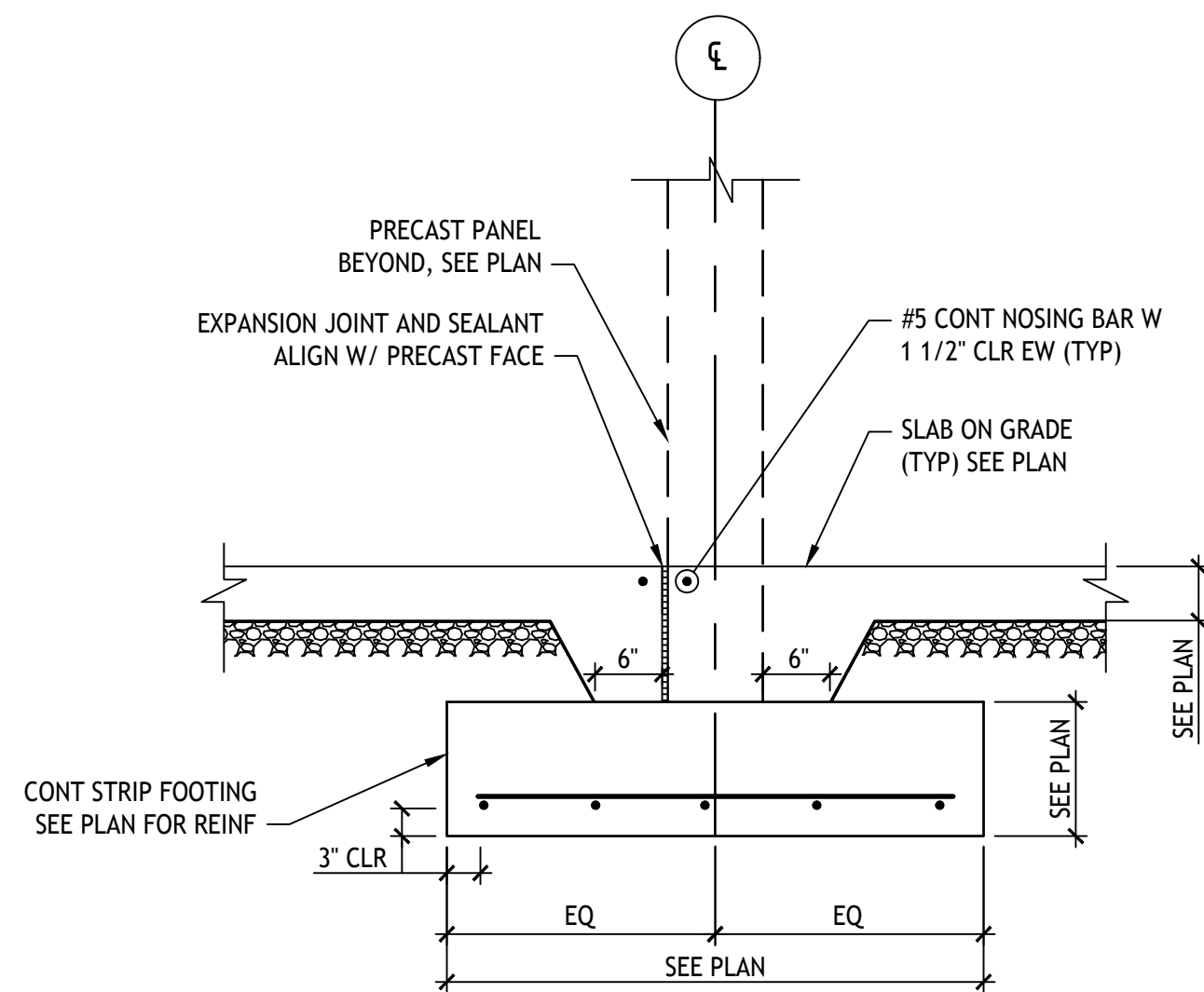
4 TYPICAL SLAB ON GRADE TURNDOWN
3/4" = 1'-0"



5 TYP EXTERIOR PRECAST WALL FOOTING
SCALE : 3/4" = 1'-0"

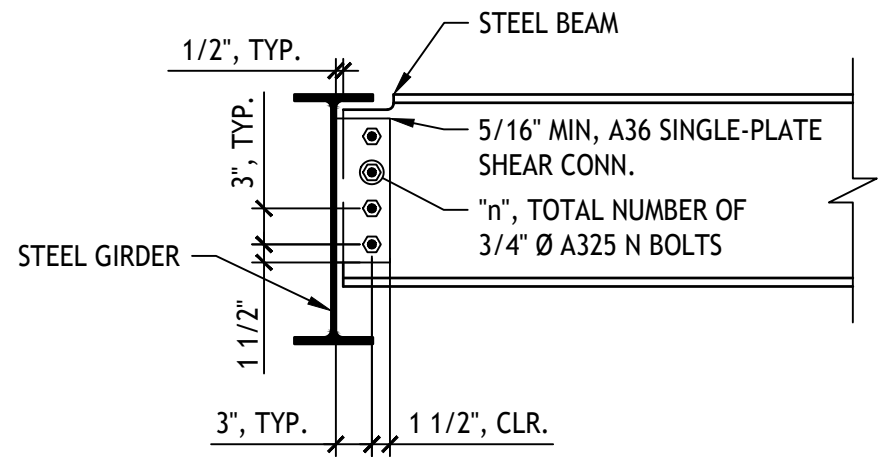


6 TYP INTERIOR PRECAST WALL FOOTING
SCALE: 3/4" = 1'-0"



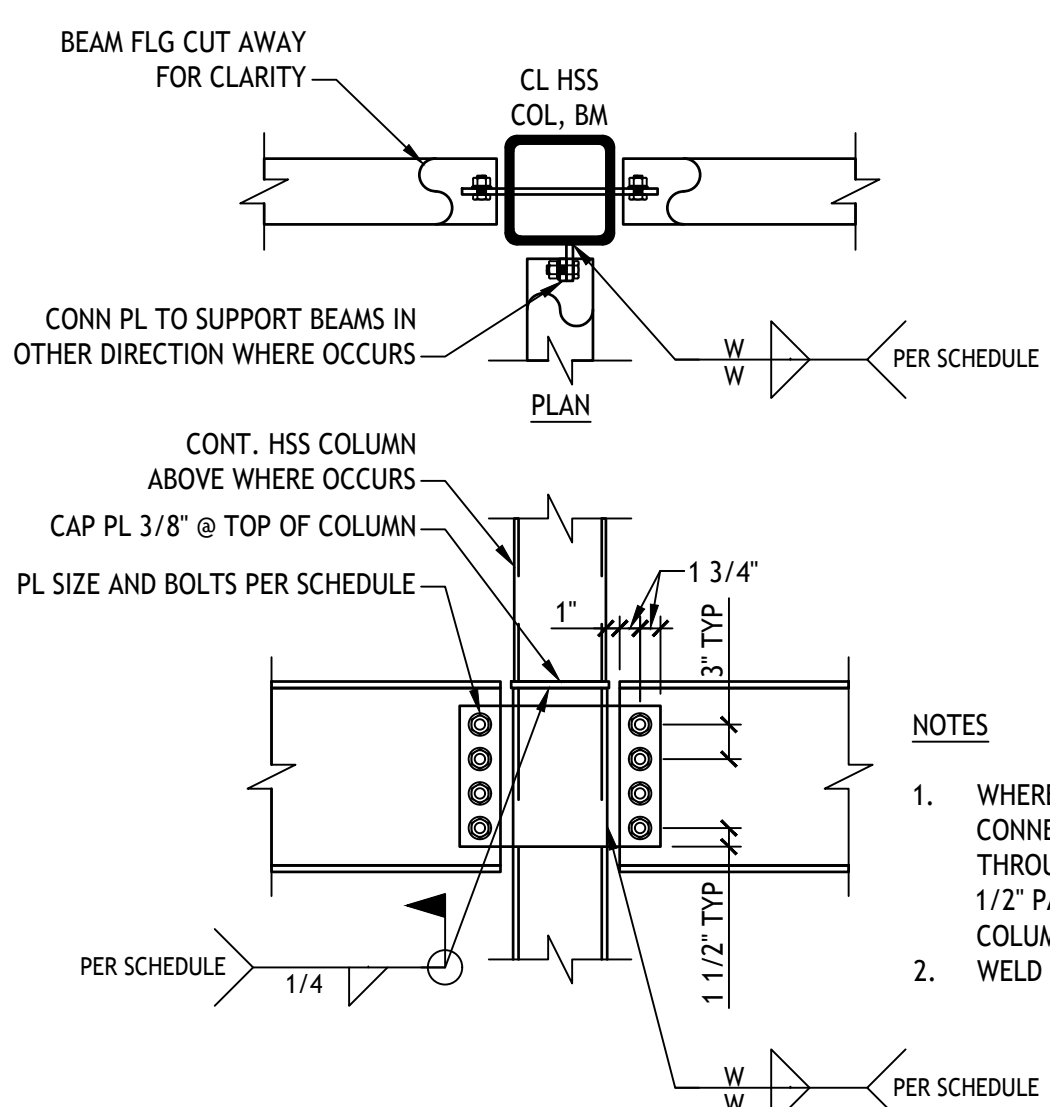
7 TYP INTERIOR PRECAST DOOR THRESHOLD
SCALE: 3/4" = 1'-0"

PERMIT SET	12/11/2024
SONIC PRICING SET	12/10/2024
SONIC FINAL REVIEW	11/07/2024
90% SUBMISSION	10/17/2024
60% SUBMISSION / DOP2	09/10/2024
NO. DATE	DATE
DRAWN BY: ZK/NT	
CHECKED BY: RH/UBTS	
PLOT DATE: 12/10/2024	

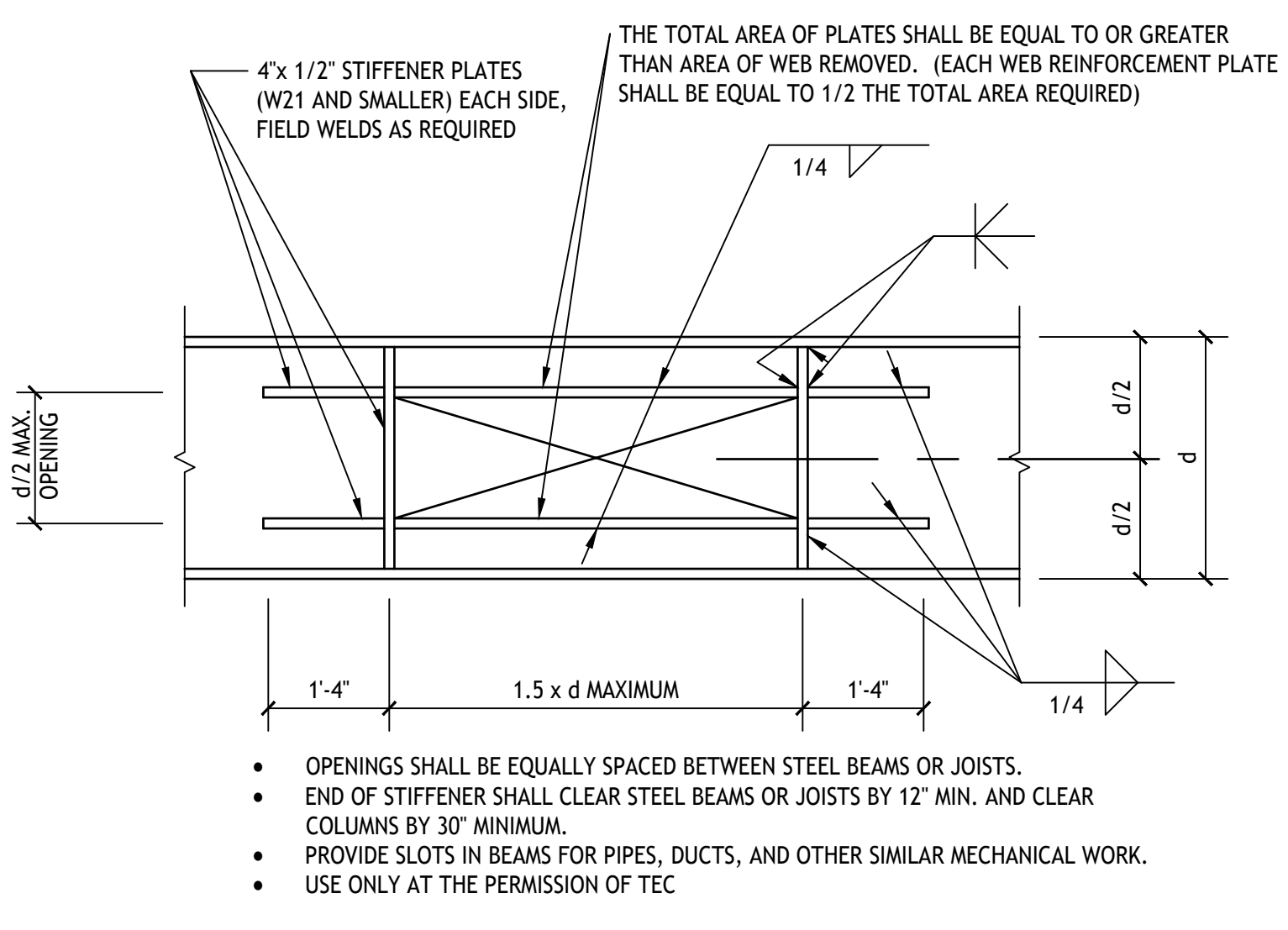


- NOTES:
1. USE PRINCIPAL DETAIL EXCEPT WITH APPROVAL OF THE STRUCTURAL ENGINEER
 2. PROVIDE BOLTED/WELDED SINGLE PLATE CONNECTIONS (TABLE 10-10a LRFD) (TYP.)
 3. WHERE BEAM REACTIONS ARE SHOWN ON PLAN, SHEAR CONNECTION MAY BE DETAILED PER STEEL FABRICATORS PREFERENCE. REACTIONS SHOWN ARE FACTORED.
 4. 3/4" FIELD BOLTS - PRE-TENSIONED (ASTM A325), UNO.
 5. SHOP WELDS - E70XX ELECTRODES.
 6. A325 BOLTS HAVE BEEN SIZED USING THE THREAD-INCLUDED VALUES FROM TABLE 10-10a
 7. ALL BOLT HOLE SIZES TO BE STD PER AISC TABLE 10-9
 8. SEE 2/5-301 AT HSS COLUMNS.
 9. SEE 8/5-301 FOR MOMENT CONNECTIONS.

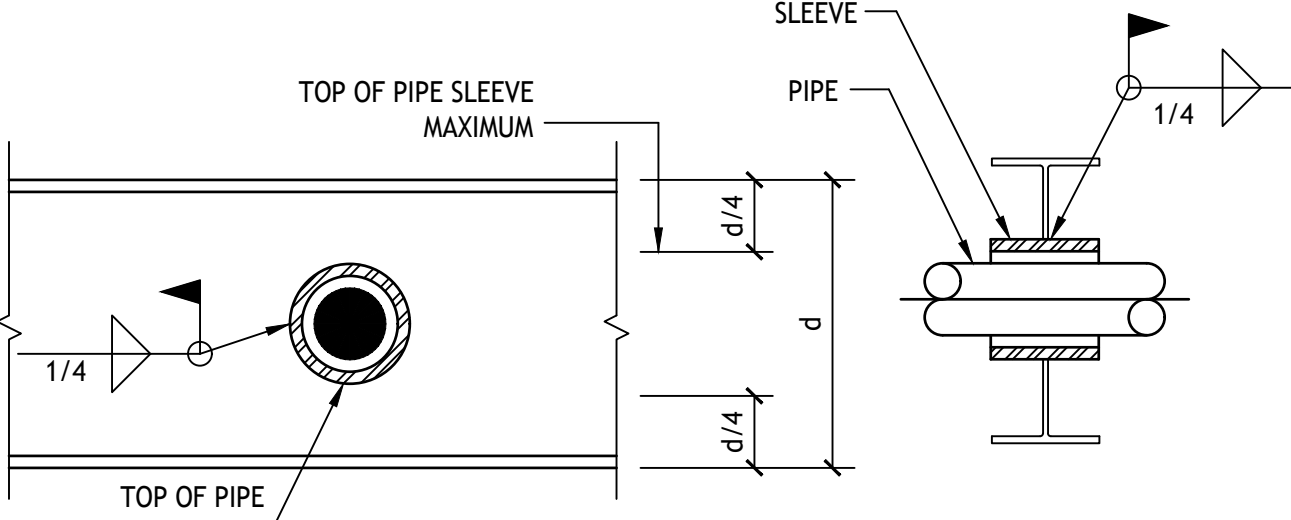
BEAM TO BEAM / COLUMN SHEAR AND MOMENT REACTION SCHEDULE			
BEAM SIZE	MINIMUM # OF 3/4" Ø A325-N BOLTS, "n"	FACTORED LOAD REACTION CAPACITY (KIPS)	FACTORED MOMENT CAPACITY (KIPS-FT)
W14	4	30	
W16	4	35	30
W18	5	50	90
W24	5	50	90



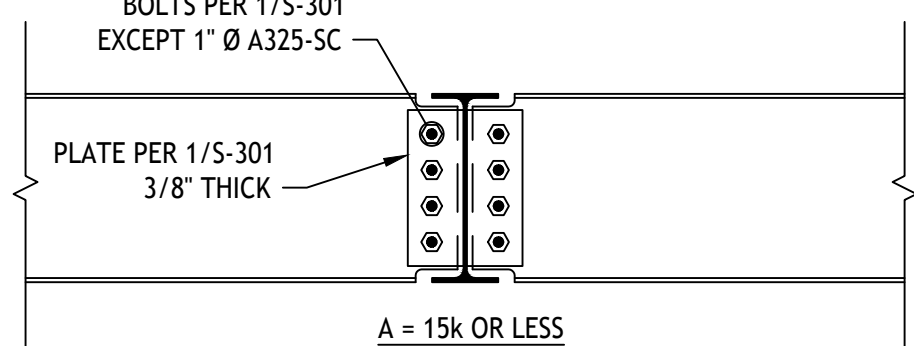
- NOTES
1. WHERE SINGLE BEAM CONNECTION IS REQUIRED ON THROUGH-PLATE, EXTEND PLATE 1/2" PAST EXTERIOR FACE OF COLUMN FOR WELD ACCESS.
 2. WELD SIZE "W" PER 1/504.21.



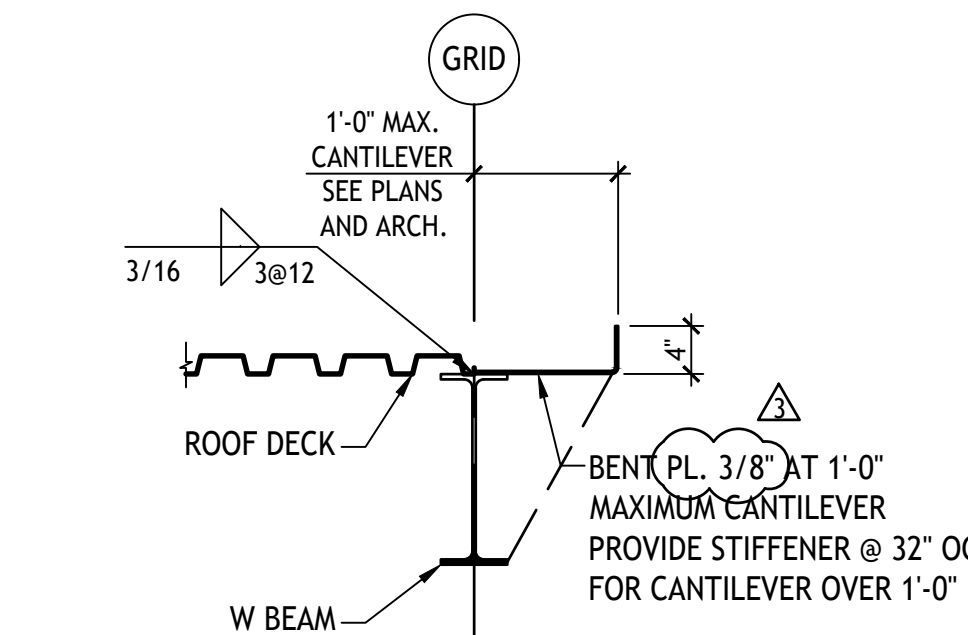
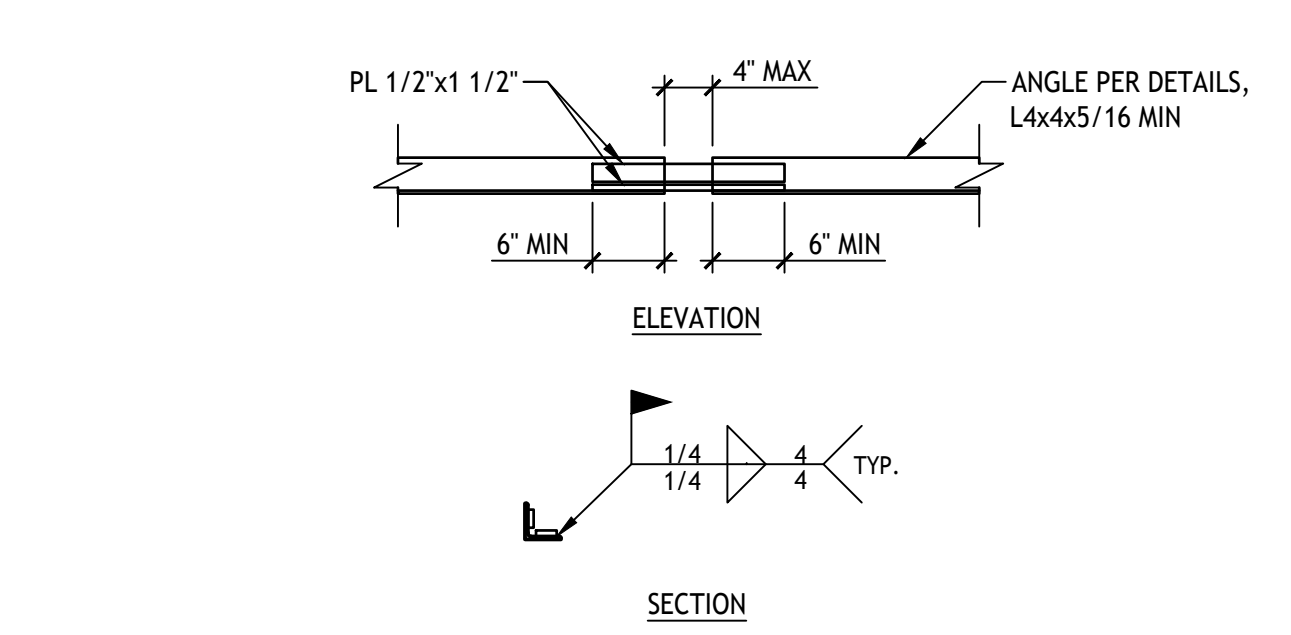
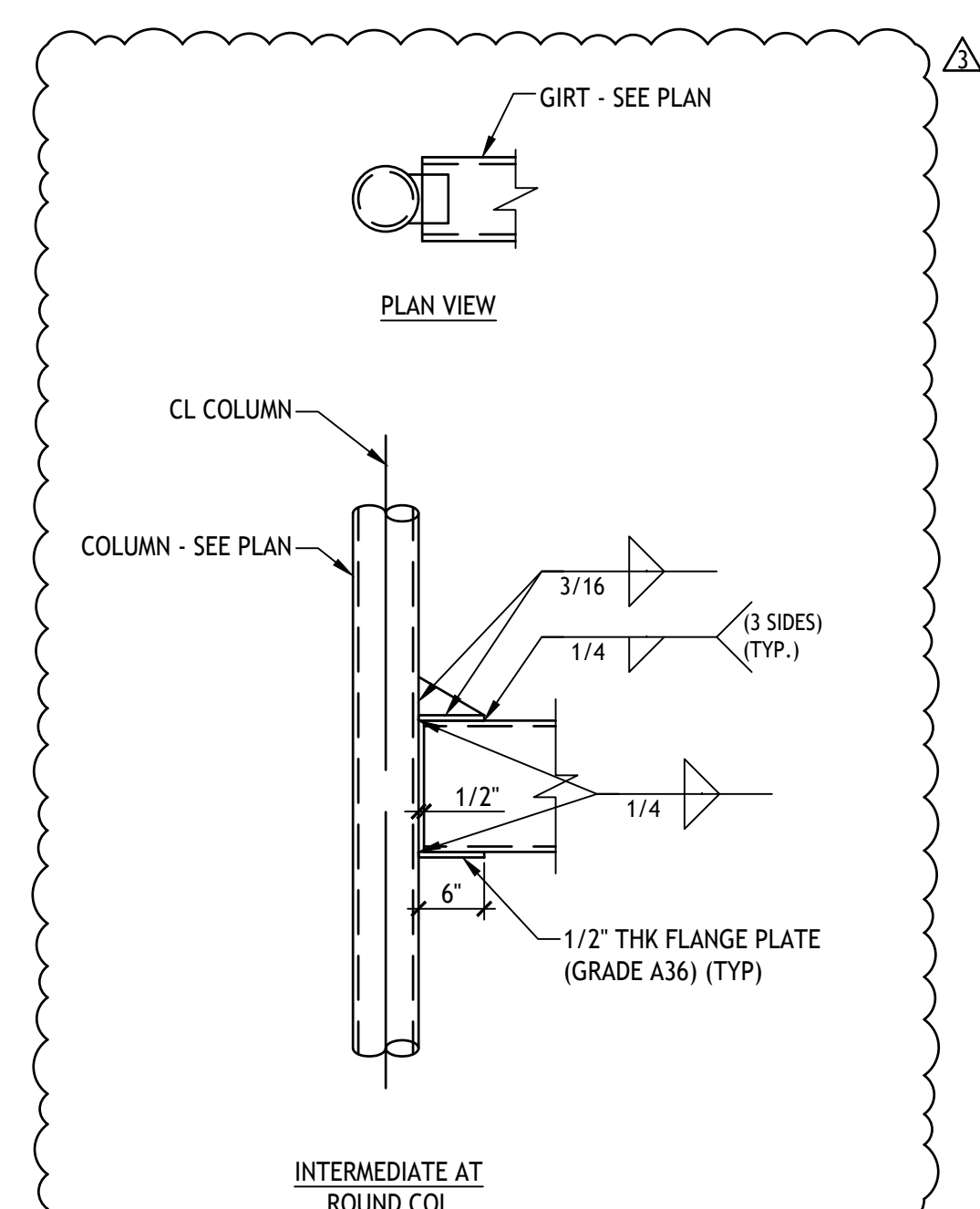
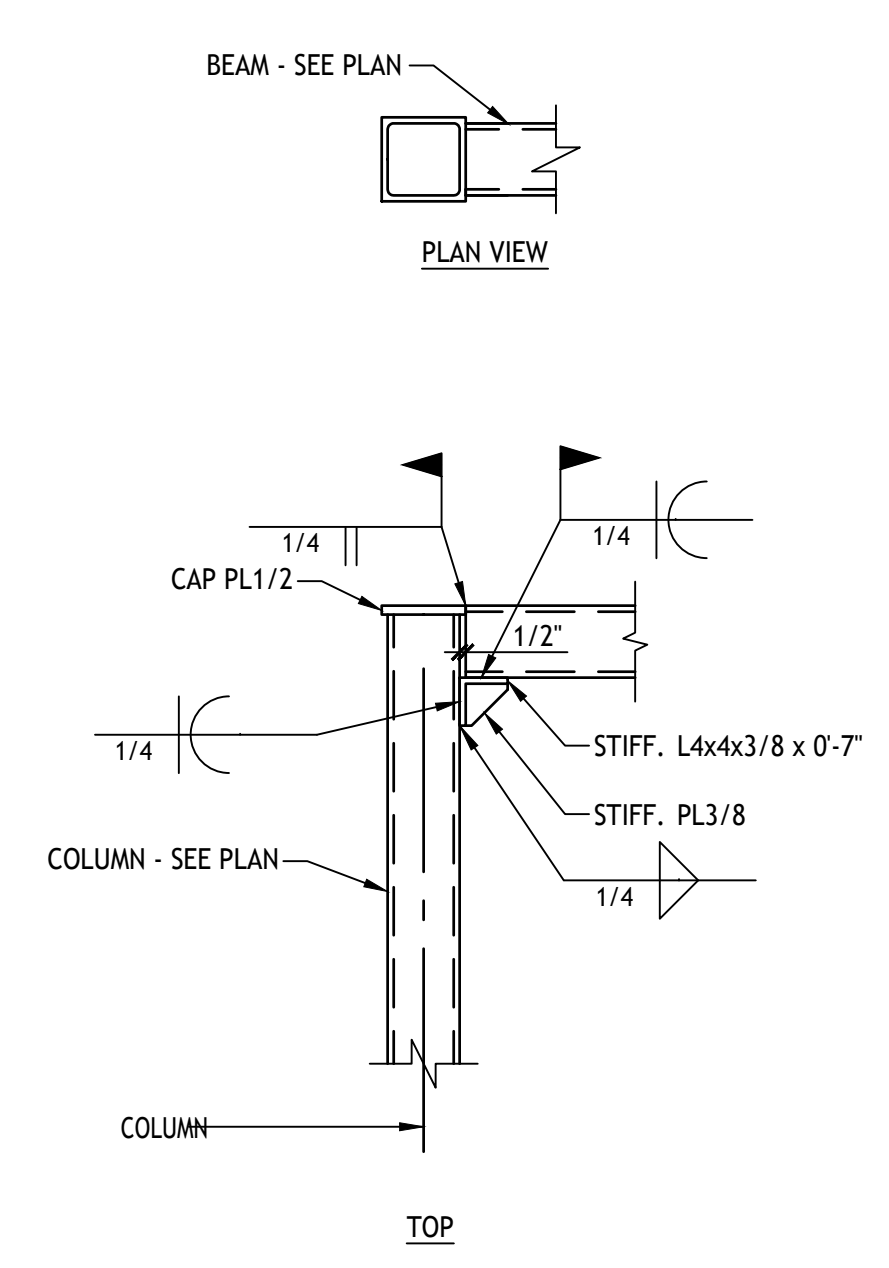
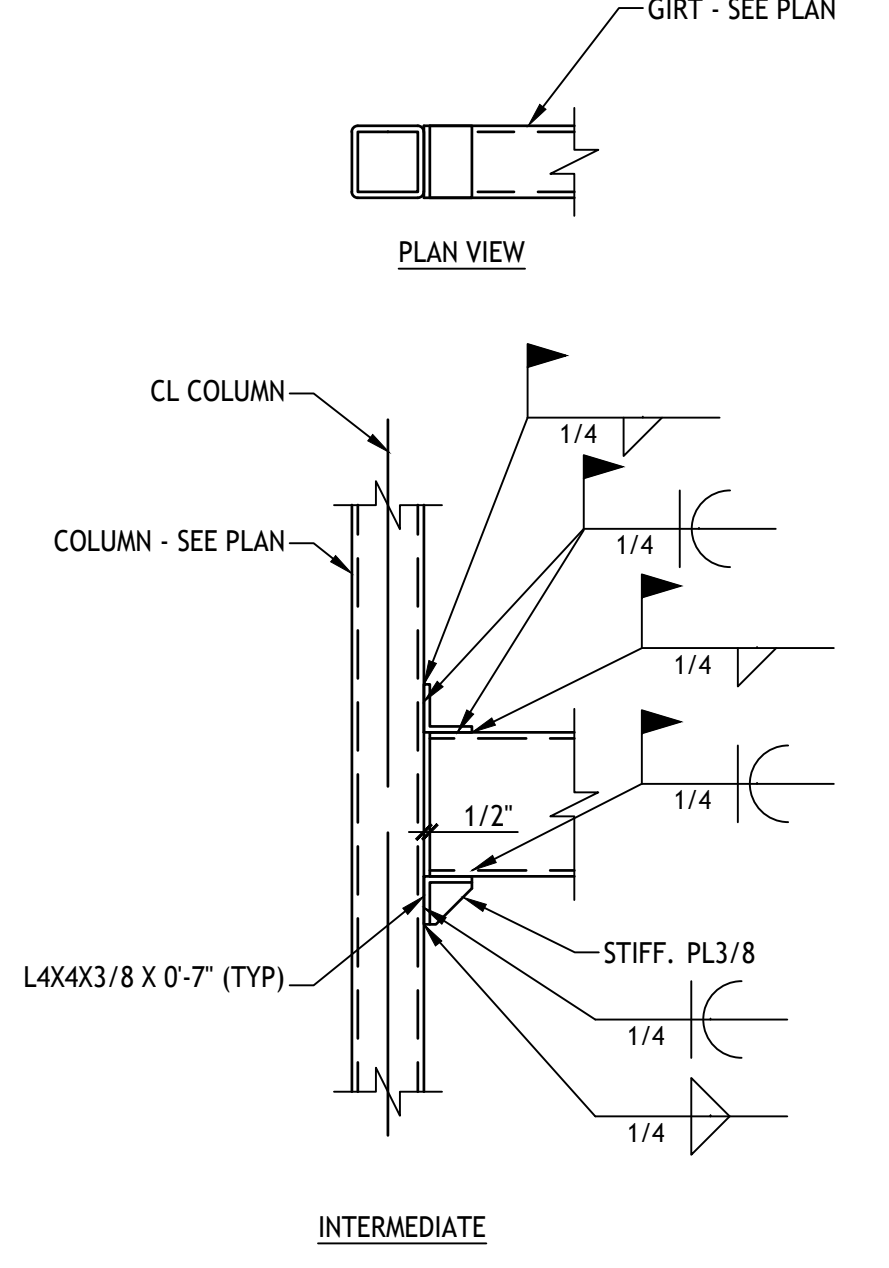
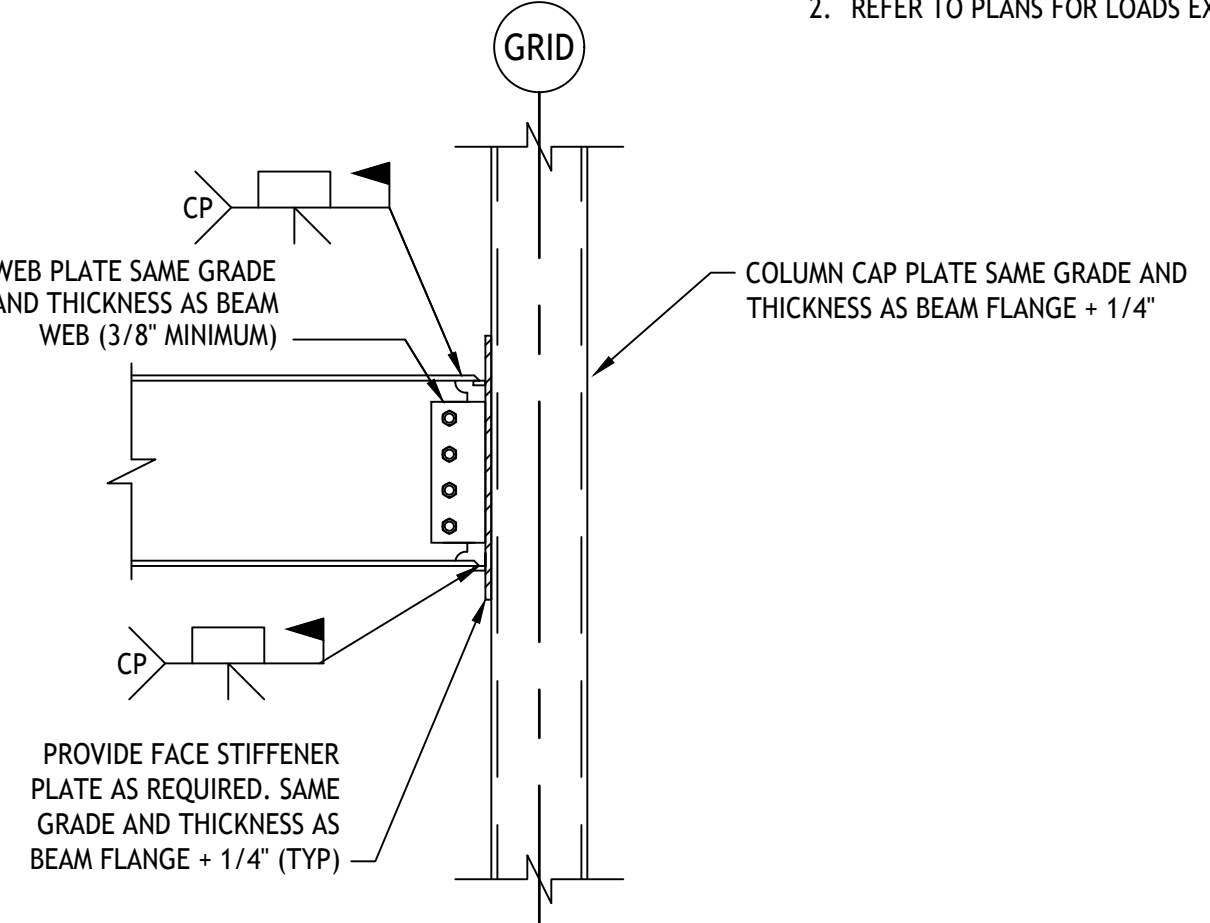
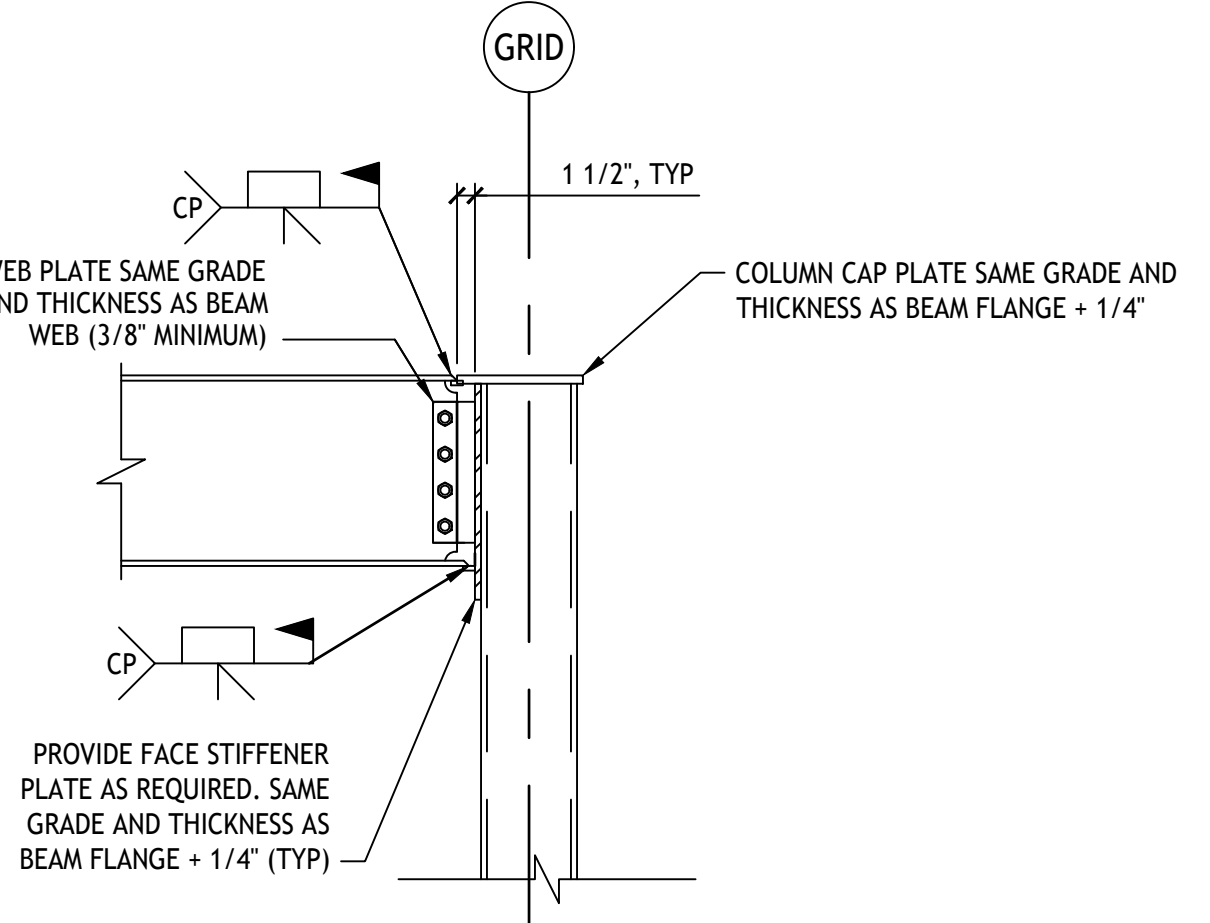
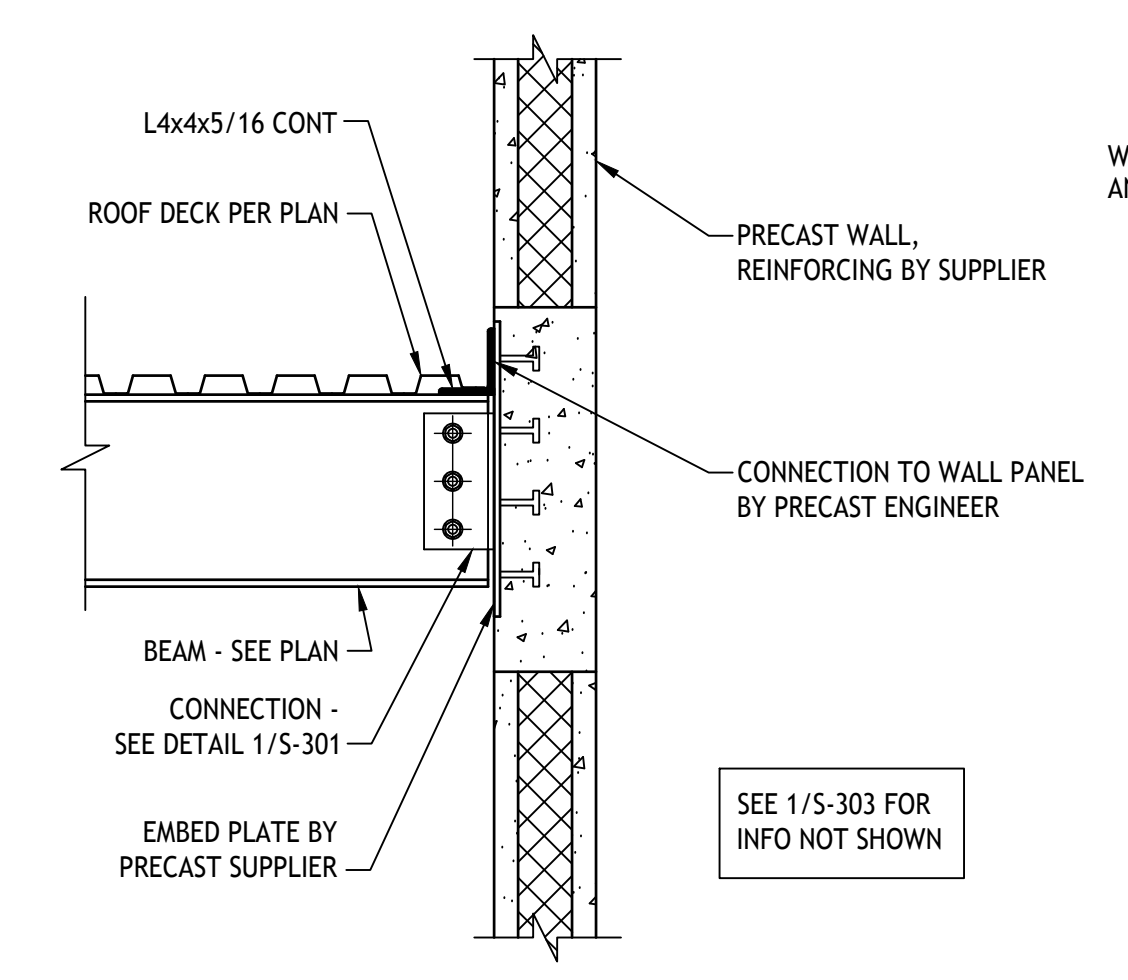
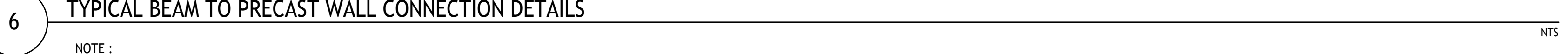
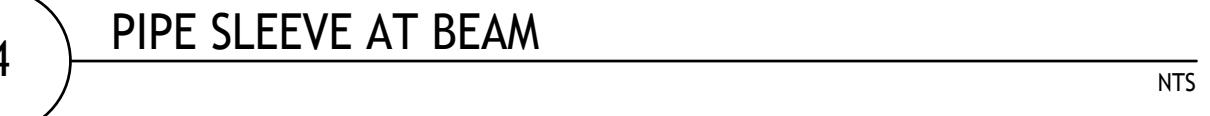
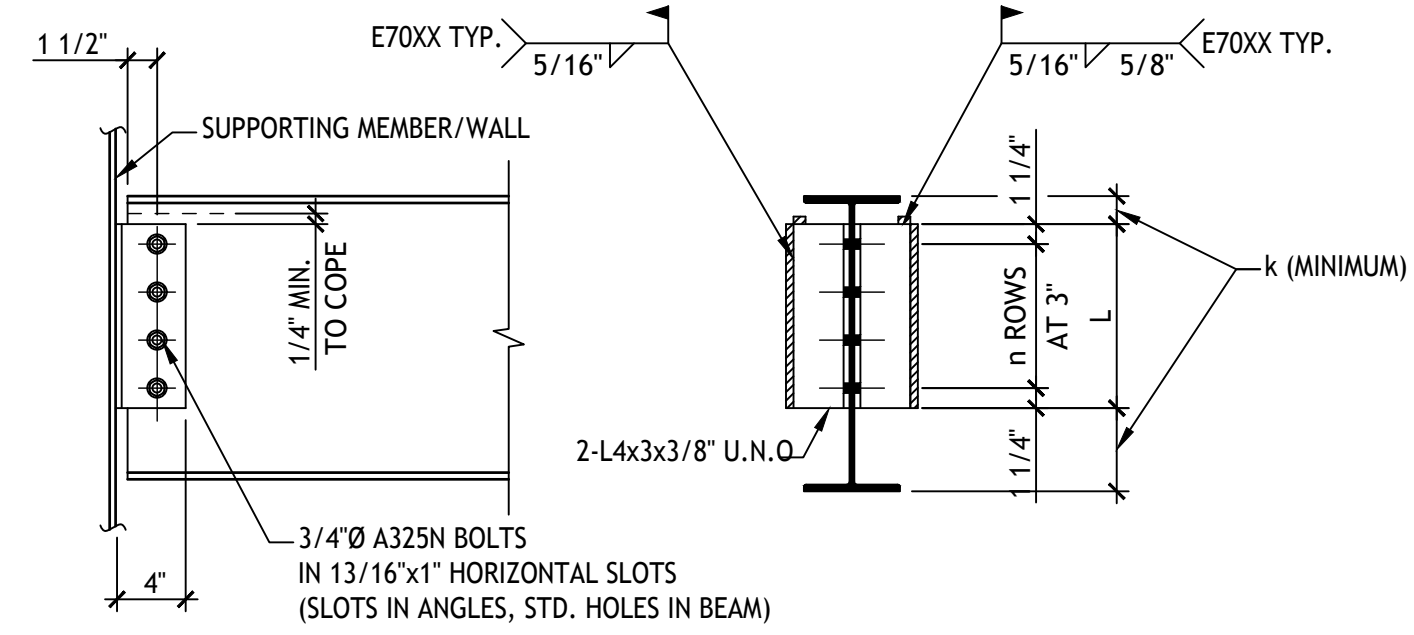
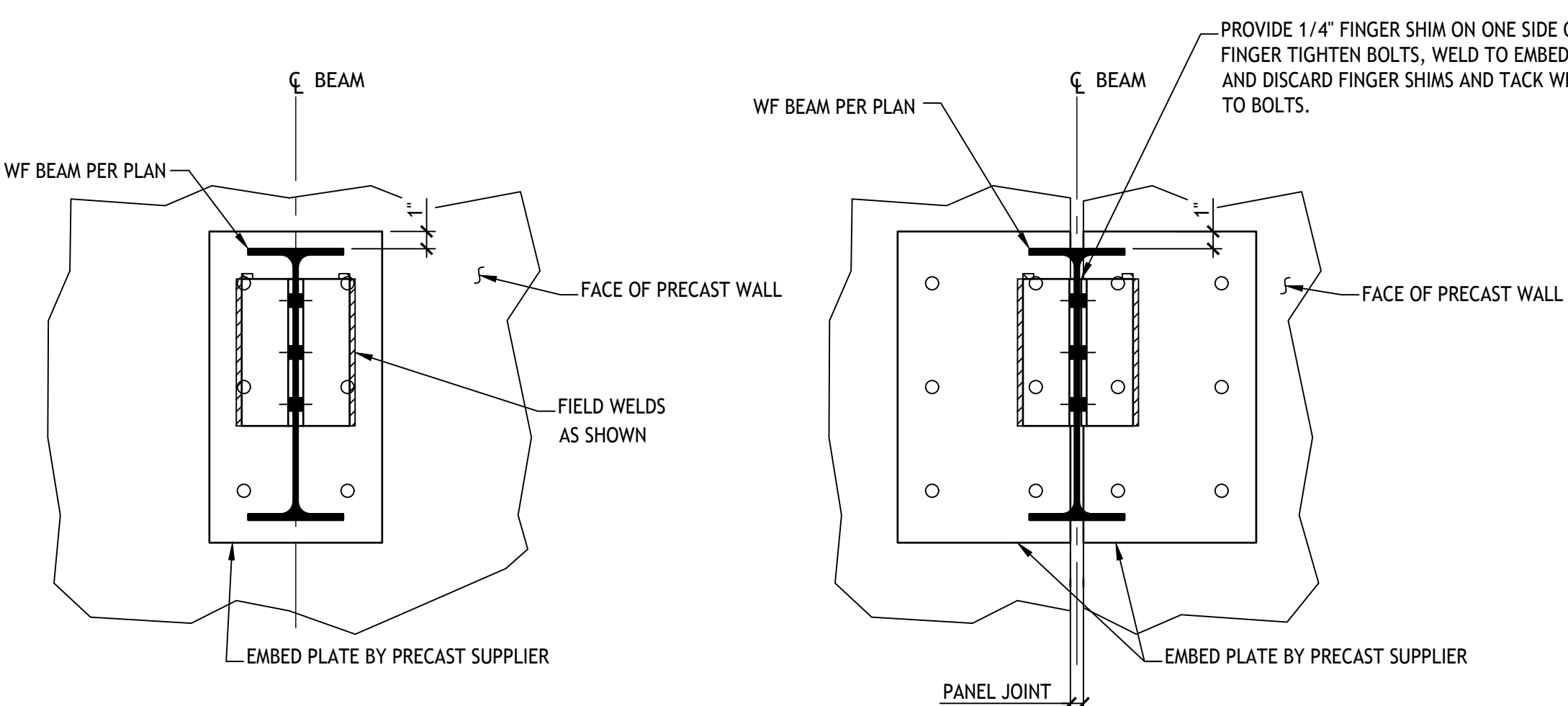
- OPENINGS SHALL BE EQUALLY SPACED BETWEEN STEEL BEAMS OR JOISTS.
- END OF STIFFENER SHALL CLEAR STEEL BEAMS OR JOISTS BY 12" MIN. AND CLEAR COLUMNS BY 30" MINIMUM.
- PROVIDE SLOTS IN BEAMS FOR PIPES, DUCTS, AND OTHER SIMILAR MECHANICAL WORK.
- USE ONLY AT THE PERMISSION OF TEC

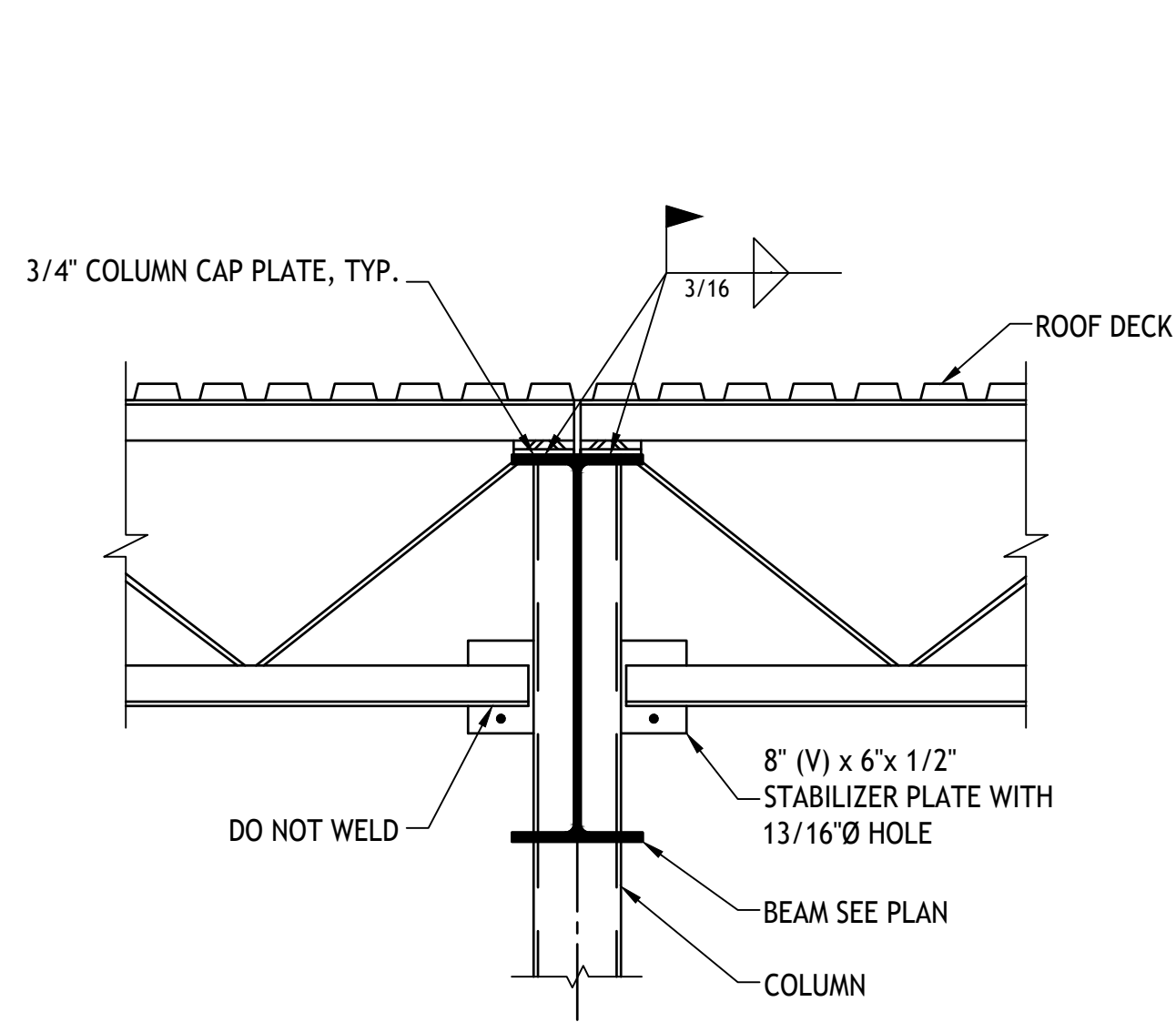


- PIPE SLEEVES SHALL CLEAR ALL BEAM TO BEAM AND BEAM TO COLUMN CONNECTIONS BY 30" MIN.
- PIPE SLEEVES SHALL BE MADE OF STEEL CONFORMING TO ASTM A-53, TYPES E OR S, GRADE B (FY = 35 KSI)
- PIPE SLEEVES SHALL BE SPACED NO CLOSER THAN 3'-0"
- IF INSIDE DIAMETER OF PIPE SLEEVE EXCEEDS 4/3, USE TYPICAL DETAIL FOR SLOTS IN BEAMS.
- SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS.
- USE ONLY AT THE PERMISSION OF TEC

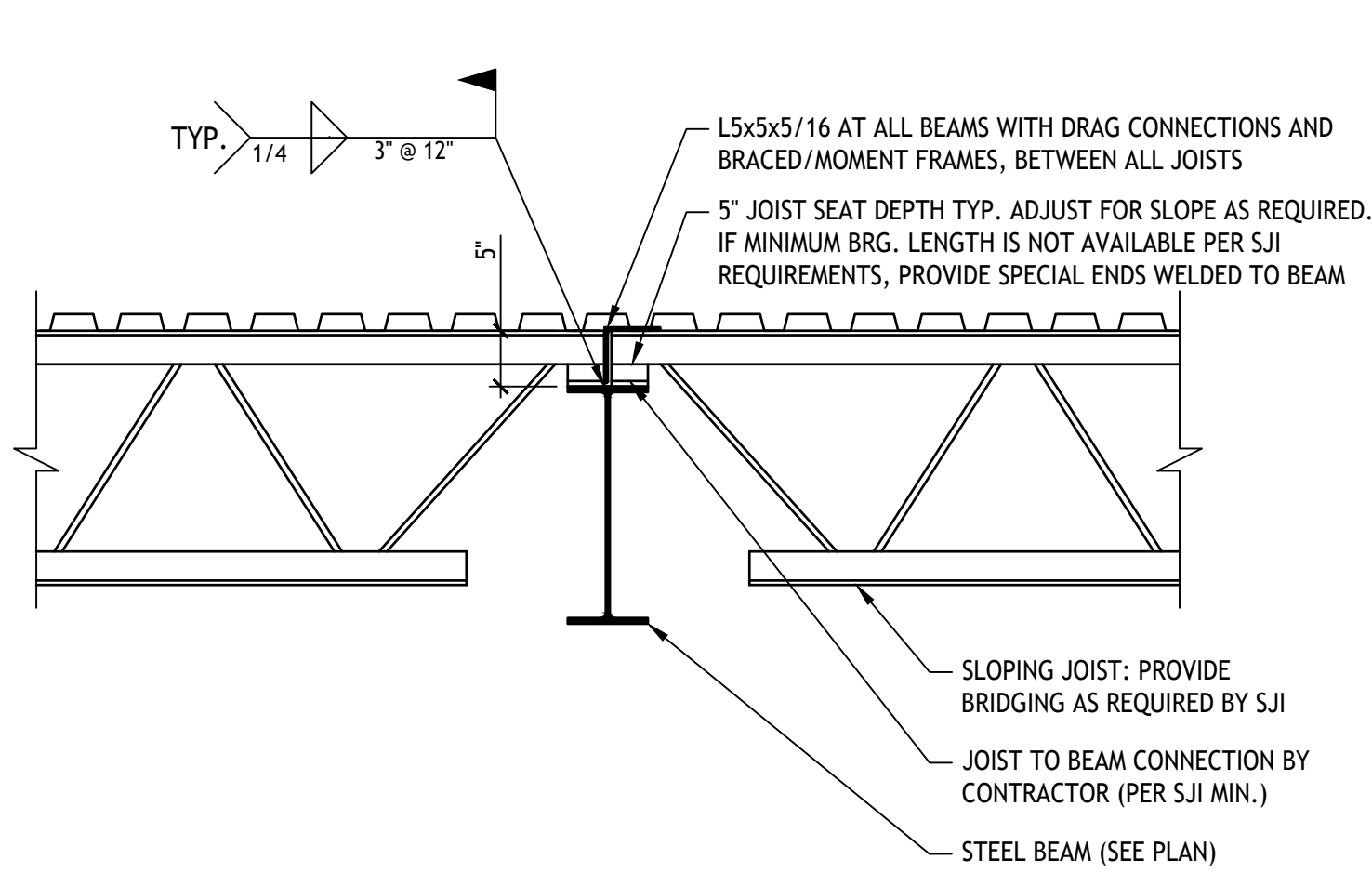


- ALL BOLT HOLES TO BE STANDARD.
- PLATES MUST ALIGN BOTH SIDES OF WEB.
- AT COLUMNS USE THRU PLATE.

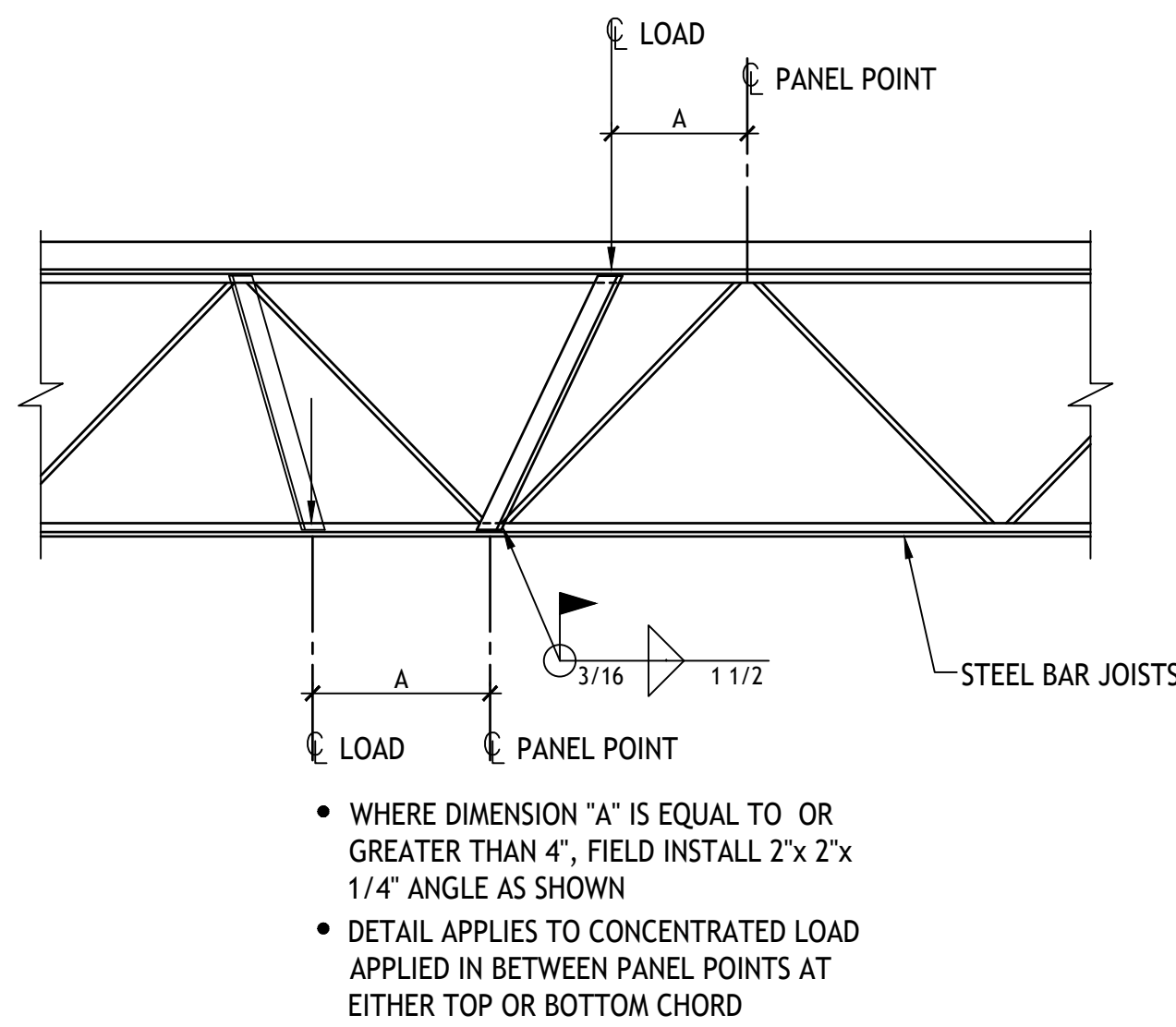




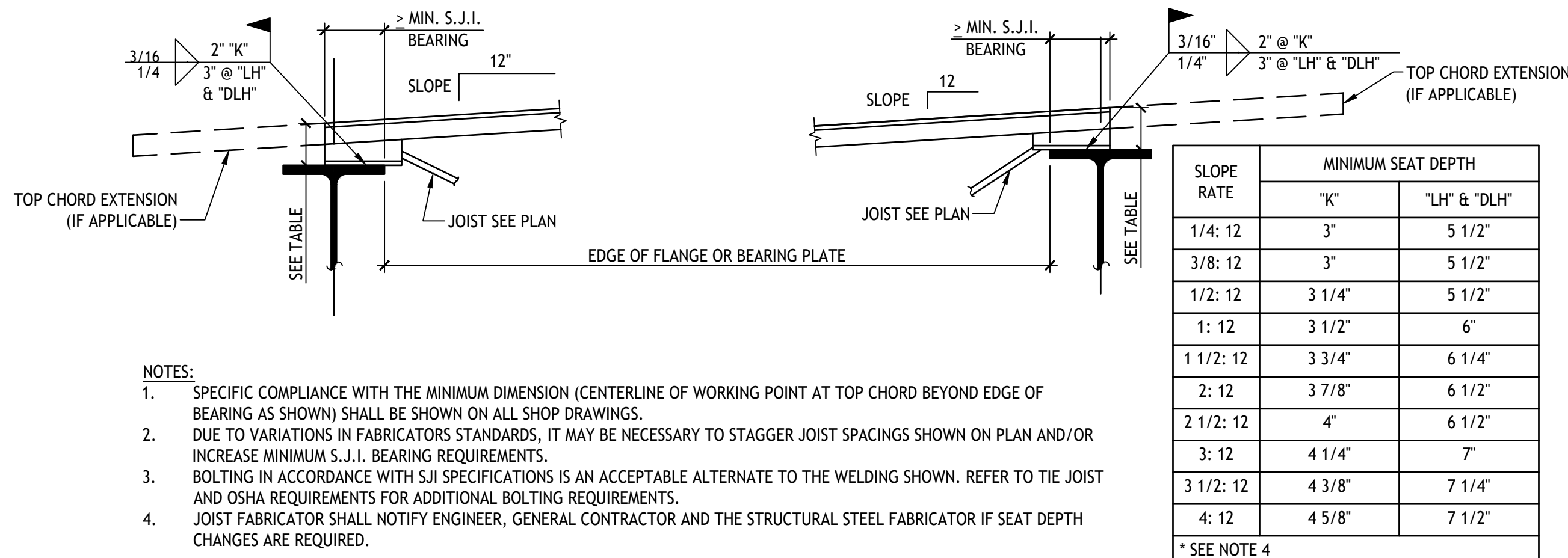
1 TYPICAL JOISTS & COLUMN AT ROOF
SCALE : 3/4" = 1'-0"



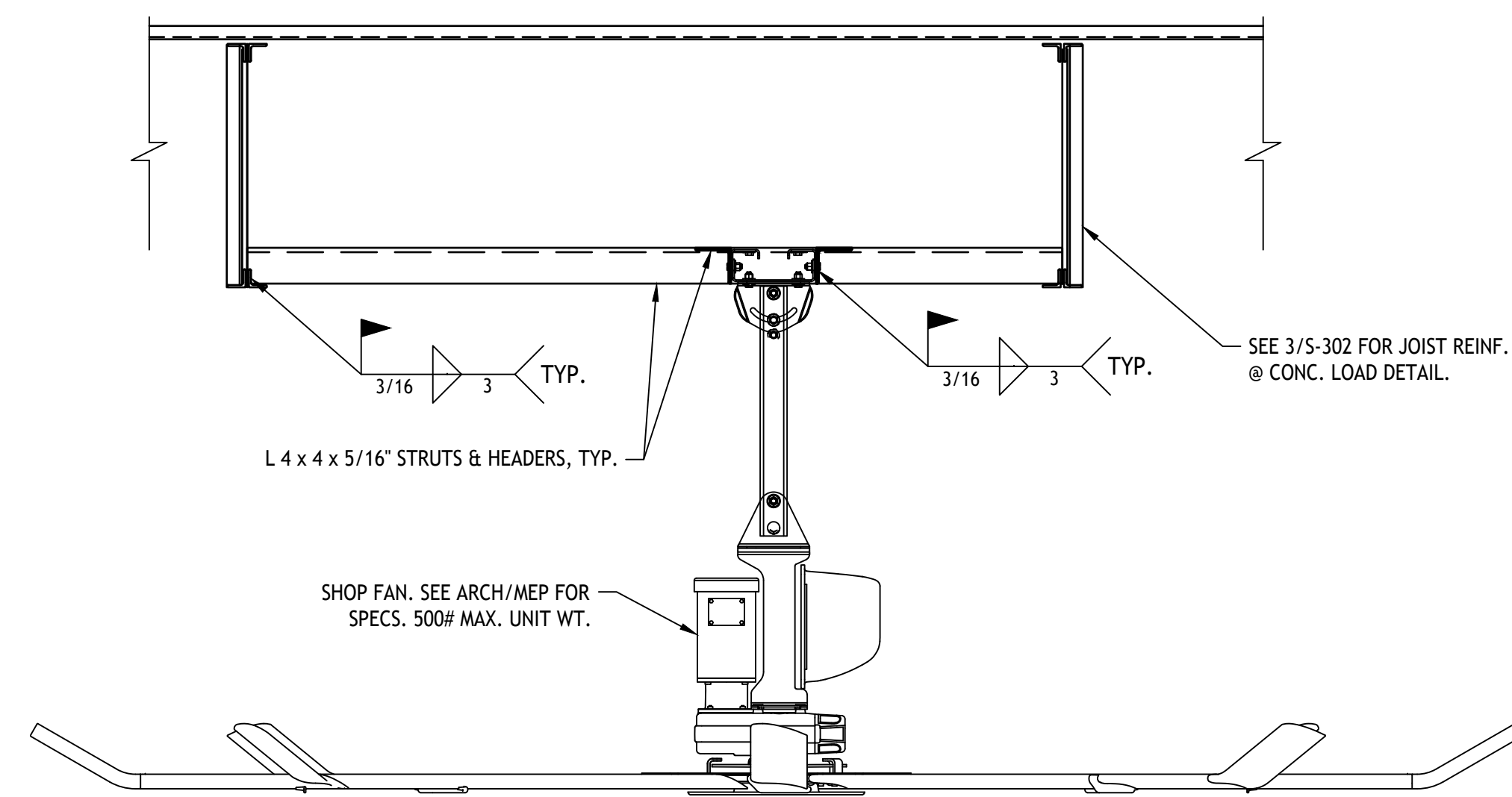
2 TYPICAL JOISTS BEARING ON GIRDER
3/4" = 1'-0"



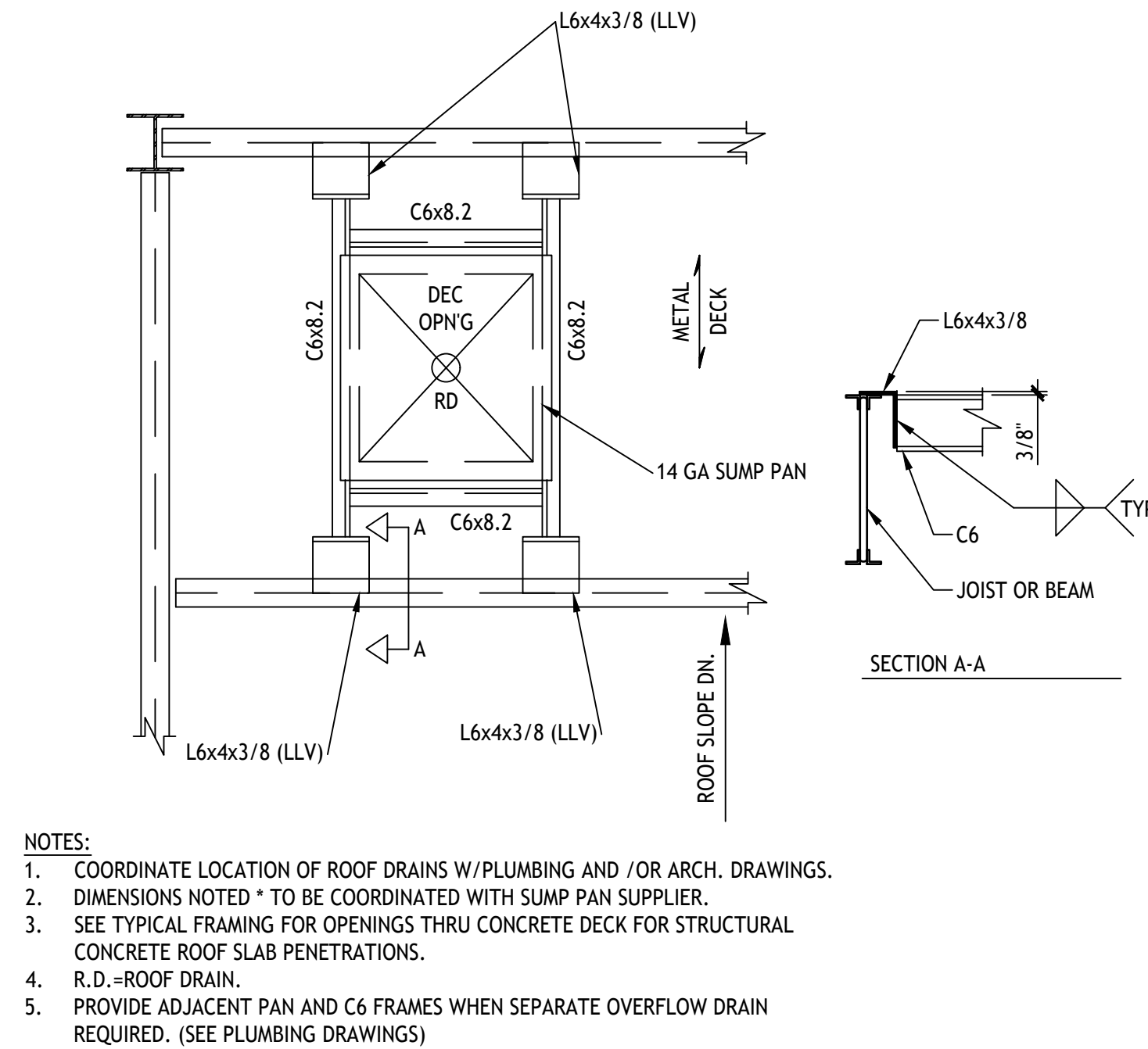
3 ADDITIONAL JOIST WEB REINFORCING AT CONCENTRATED LOADS
NTS



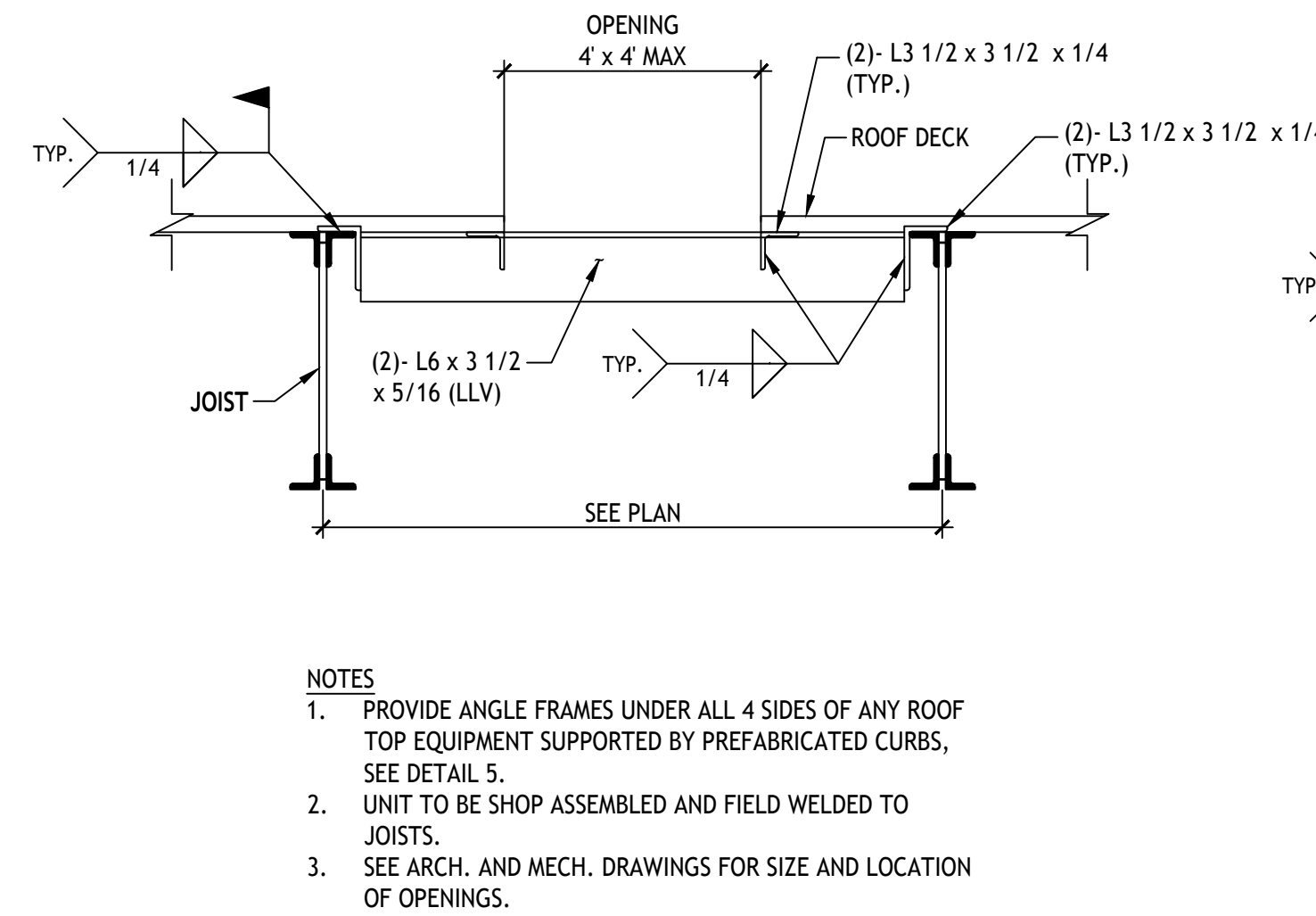
4 SLOPED SEAT JOIST BEARING DETAIL
N.T.S.



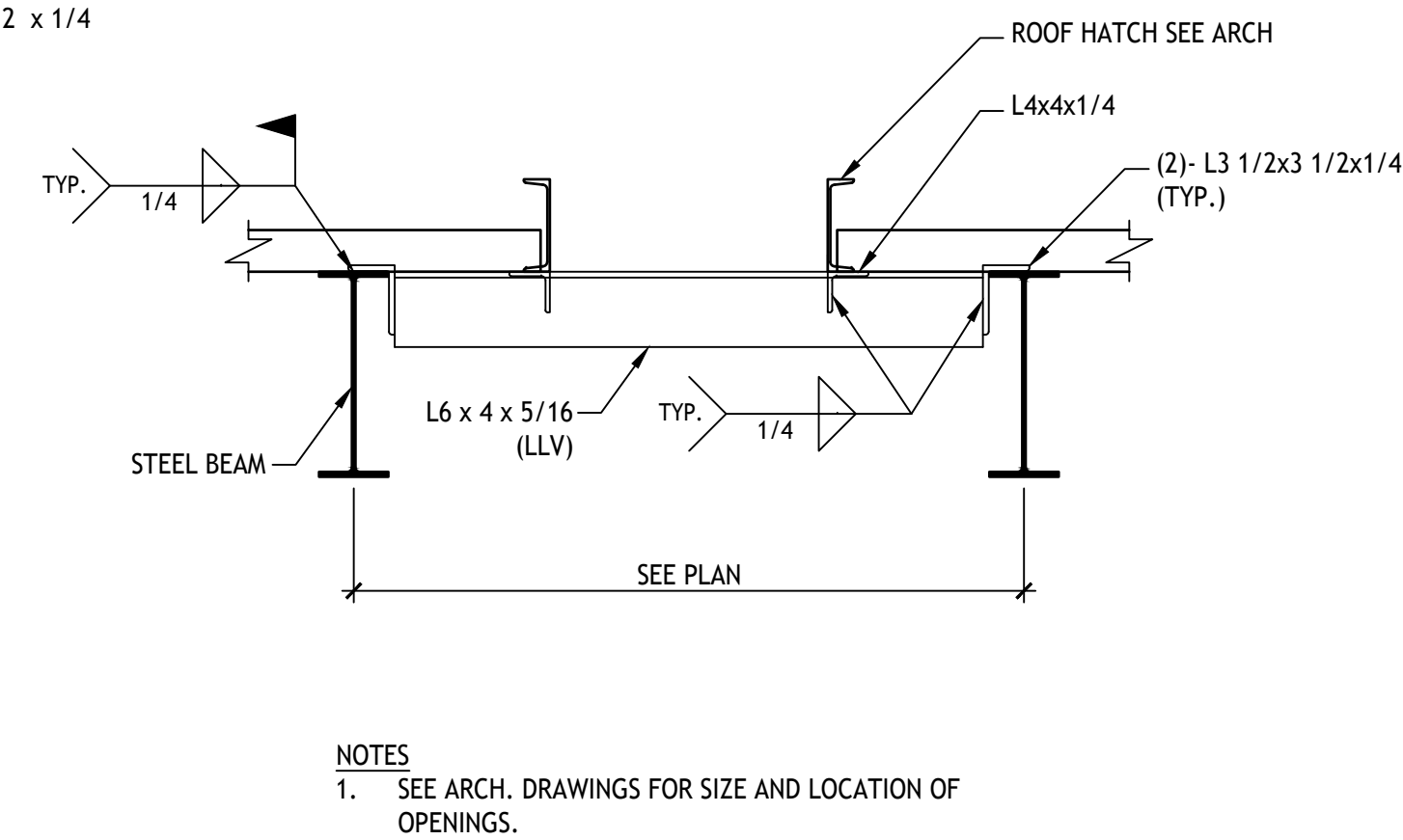
5 SHOP FAN SUPPORT FRAMING
NTS



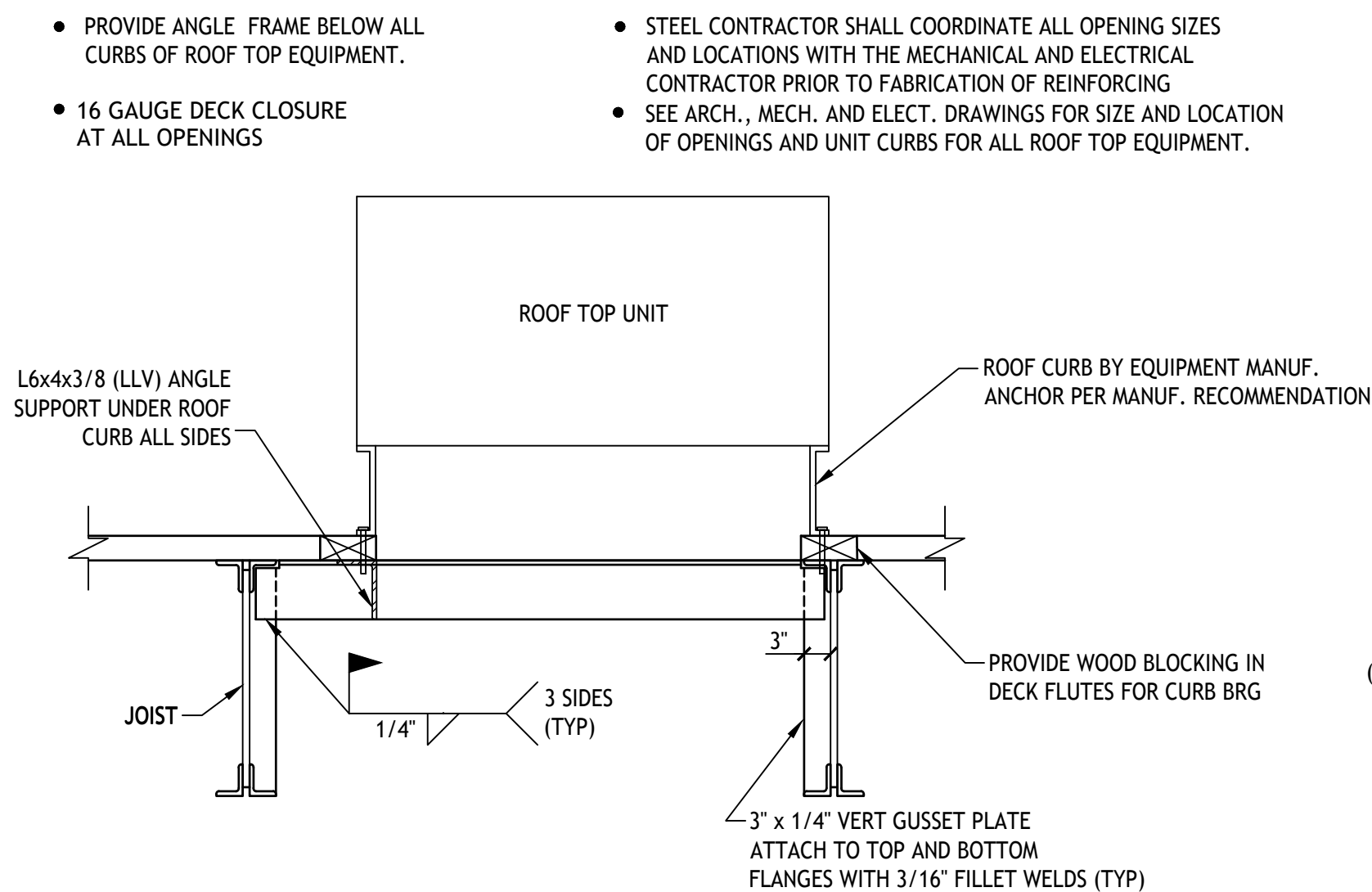
6 TYPICAL ROOF DRAIN FRAMING
NTS



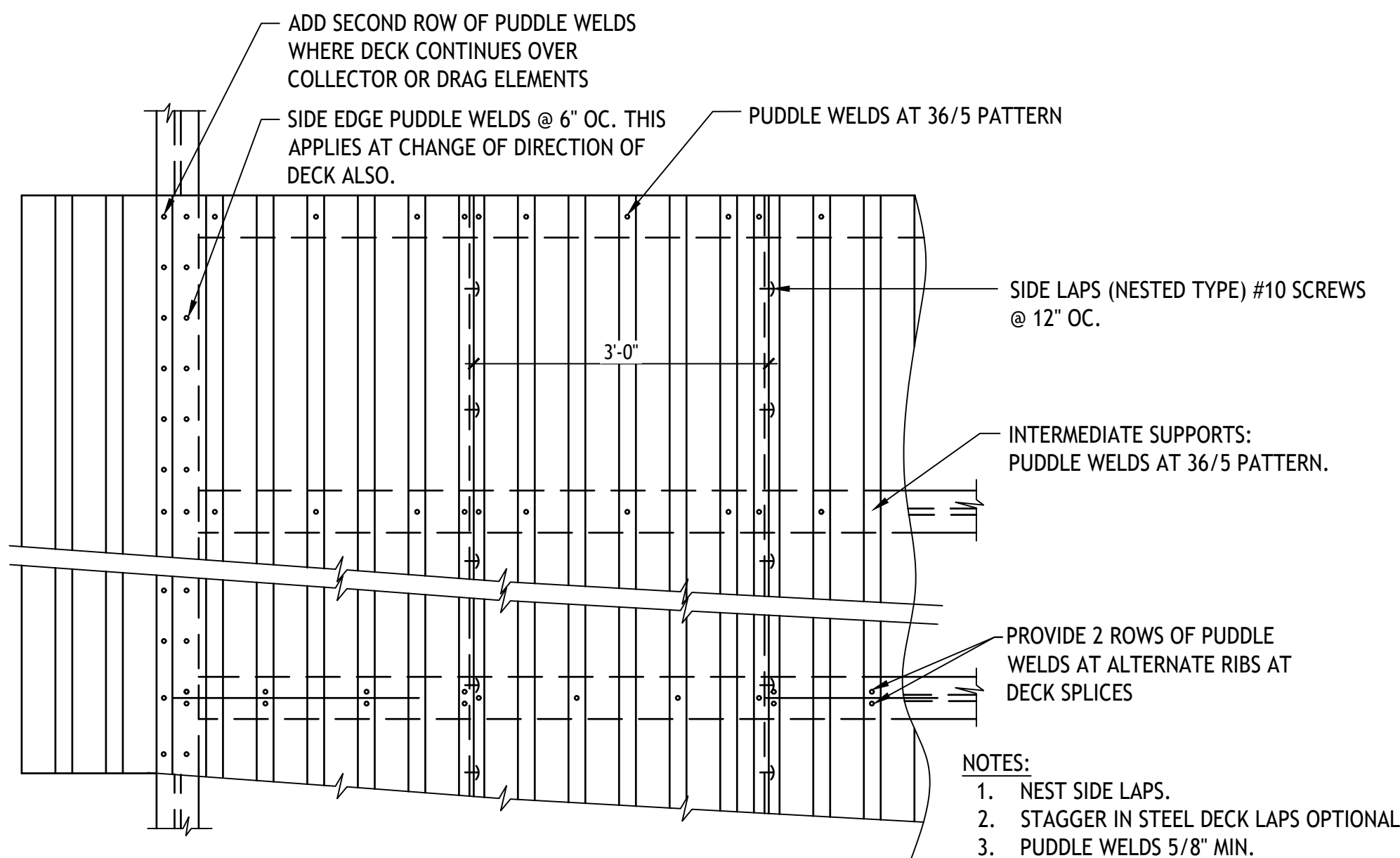
7 TYPICAL ROOF OPENING
NTS



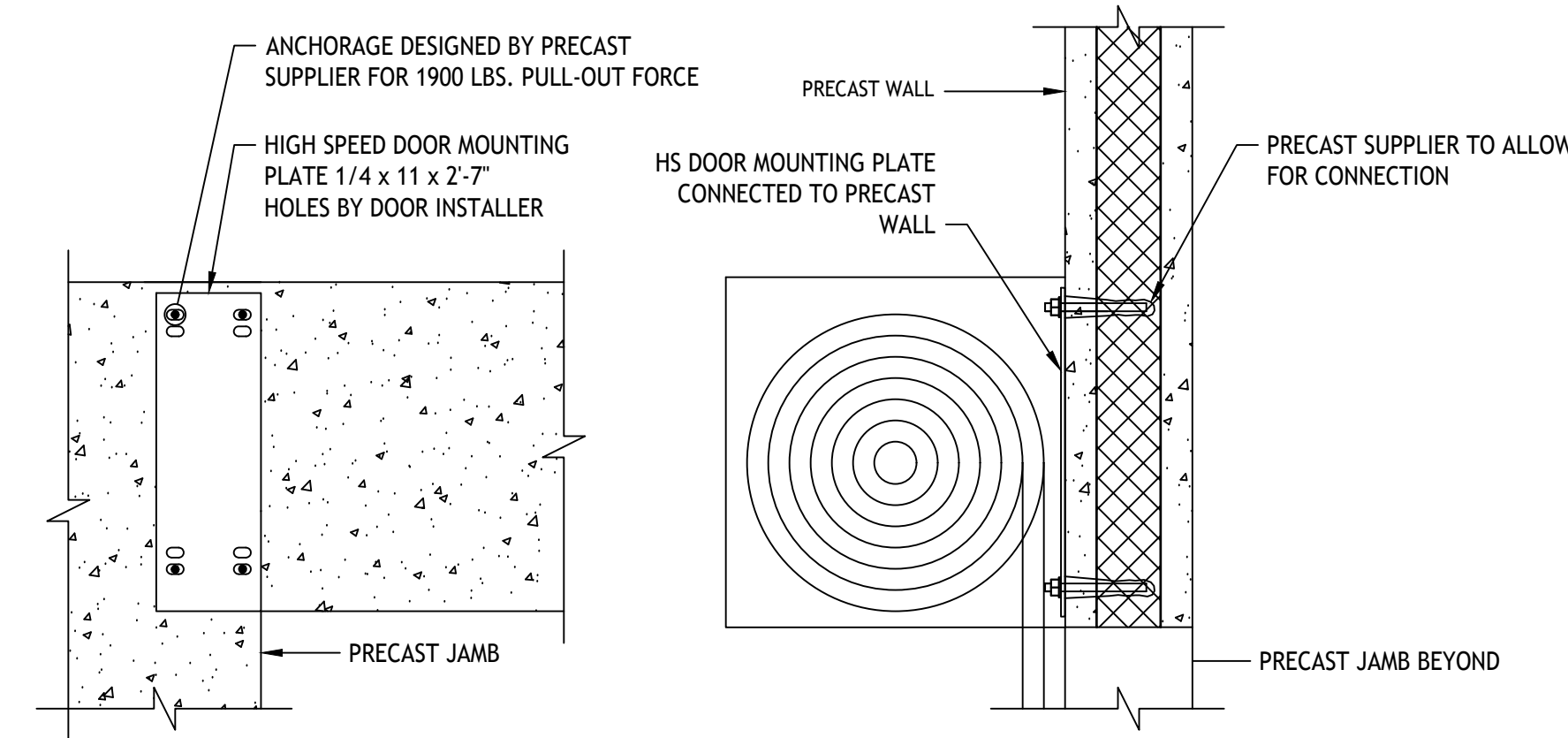
8 ROOF HATCH
NTS



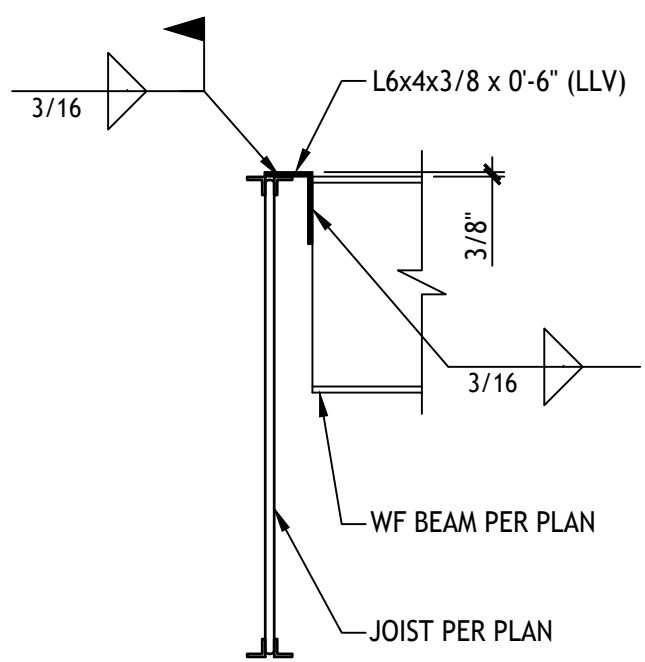
9 ANGLE SUPPORT FOR ROOF TOP UNIT CURB
NTS



10 TYP ROOF DECK FASTENING PATTERN
NTS

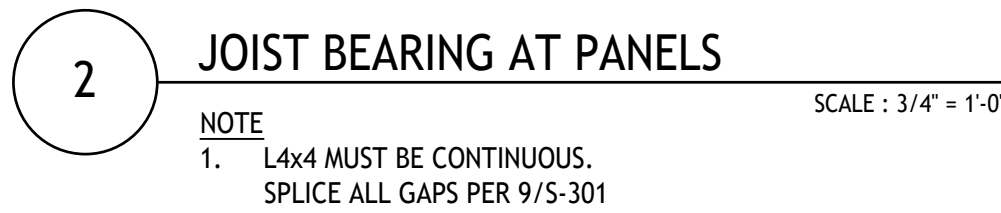
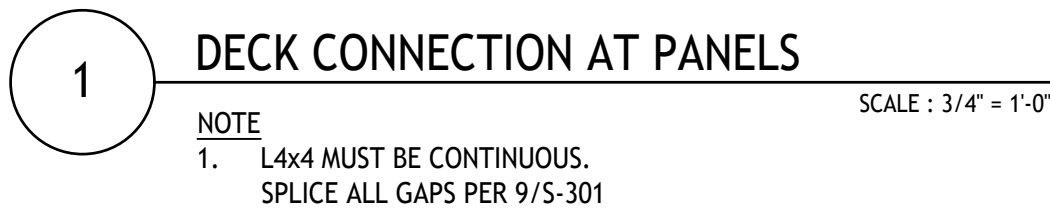


12 HIGH SPEED DOOR ATTACHMENT TO PRECAST
SCALE : 3/4" = 1'-0"



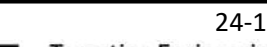
13 BEAM TO JOIST CONNECTION
SCALE : 3/4" = 1'-0"

PERMIT SET	12/11/2024
SONIC PRICING SET	12/10/2024
SONIC FINAL REVIEW	11/07/2024
90% SUBMISSION	10/17/2024
60% SUBMISSION / DDP2	09/10/2024
NO. ISSUE / REVISION	DATE
DRAWN BY:	ZK/NT
CHECKED BY:	RH/NTS
PLOT DATE:	12/10/2024





Consultants _____ 24-1



Tarantino Engineering
Consultants, PC

Massey Cadillac South

 Digitally signed by
Brian Tarantino
Date: 2025.01.16
15:32:48 -05'00'

license number: PE88785 expiration date: 02/28/20

DRAWN BY: ZK/K

SHEET TITLE

PROJECT NUMBER	SON002a
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SCALE:
AS SHOWN

